THE LANCET

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LECTURES

ON THE

THEORY AND PRACTICE OF MIDWIFERY

DELIVERED AT GUY'S HOSPITAL BY

DR. BLUNDELL.

LECTURE XXIII.

Symptoms occurring during the Puerperal State of Laborious Labours, and of the use of Instruments.

AFTER labours that are laborious, Gentlemen, the woman sometimes recovers as readily as if, during the delivery, nothing extraordinary had occurred. It does, however, occasionally happen, and that, too, where the labours have been managed with the best possible care, that a variety of morbid symptoms are manifesting themselves, more especially during the first few days; and to the consideration of these symptoms, and their treatment, we shall now proceed.

After parturition has been accomplished, whether by the use of instruments or otherwise, if the labour have been laborious, much swelling of the external parts, the *labia pudendi* and its adjuncts is by no means very unfrequent; and this may be accompanied with sloughs—sloughing of the inner surface of the perineum, or sloughing of the inner parts of the labia themselves. These sloughings and swellings, the result of compression and contusion, are best treated by fomentations and poultices; and the oil of turpentine seems to be of service, in accelerating the separation of the sloughs. Of course, the general state of the health will require attention. On tow, the oleum terebinth. may be applied to the mortified parts, pure, or mixed with two parts of the oleum olivæ.

After laborious labours, suppuration may take place within the pelvis, and matter to the amount of four, six, eight, or more ounces, may collect externally to the vagina and peritoneum in that cellular web which is interposed between the viscera below the brim. Much irritation of the hectic kind supervenes; there is sickness, and incrustation of the tongue; and purging, and sweating, and wasting, and a pulse of 120, 30, or even 40 in the minute, the symptoms altogether assuming a very alarming appearance. In the course of a few days after the delivery, the woman may die; or where the symptoms are less violent, the cysts in which the pus lodges may give way, the matter escaping variously, by the rectum, vagina, and, perhaps, the urethra itself. To detect the matter in these cases, may not always be a very easy task; throbbings, shiverings, irritation, hectic, and careful examination internally, are, perhaps, the best diagnostics. Cases of this kind must be managed on general principles: an ascertained accumulation of matter, may justify the use of the abscess lancet.

After laborious labours, the system sometimes gets into a state of collapse—the result of that extensive bruising, to which I referred in a former lecture. If the symptoms of collapse are not very considerable, the patient may rise out of them at the end of a few weeks, recovering not so much in consequence of any remedy that may have been applied, as from the gradual restoration of the contused parts under their own healing efforts. If, on the other hand, the collapse be very considerable, the body cold, the countenance fallen, the perspirations clammy, the pulse 140, or more, in the minute—the manner of the patient giving indications of debility and oppression, then any treatment, even the most powerful diffusive stimuli, will, I fear, be found of very little avail; and your patient will go on sinking until she die, perhaps, at the end of twelve, or twenty-four, or thirty-six, or, at most, eight and forty hours after the time of her delivery. I have known death from this cause occur, as late as the tenth day.

After laborious labours, a good deal of inflammation may sometimes hang about the abdominal viscera, and more especially

those viscera which lie in the vicinity of the pelvis; and if you examine internally the os uteri, and parts adjacent, or the vicinity of the navel externally, the inflammation manifests itself by tenderness on compression; and this, too, where the bowels and bladder have been thoroughly evacuated, so that no overcharge of those organs can be the cause of the uneasiness. Together with all this uneasiness of the parts in the vicinity of the pelvis, there is a crusted tongue, and a pulse 120, sometimes 130 or 140; though, in these cases, the pulse, I think, does not ordinarily become very frequent. In some *instances*, the inflammation may be seated in the peritoneum—being, however, in general, circumscribed; more generally, the peritoneum appears to escape, and the substance of the uterus and vagina, or the cellular web lying externally to the vagina, and other pelvic viscera, is the seat of the inflammation. It is satisfactory to know, that these inflammations generally do well, provided suppuration do not occur, and this is by no means very frequent. Violent practices are uncalled for, and improper. Do not confound the disease with puerperal fever; thirty or forty leeches, say thirty on an average, should be applied above the symphysis pubis. Now and then, instead of the application of leeches, blood, to the amount of sixteen ounces, may be abstracted from the arm; laxatives, refrigerants, and the antiphlogistic regimen for four or five days, will commonly be found to overcome the symptoms. Of the remedies enumerated, leeches are my principal reliance; and when the patient has a moderate share of strength after the leeches, I am accustomed to lay on three poultices in succession, each for two hours, so as to encourage the bleeding; the poultices should be large, warm, and soft.

After laborious deliveries, sometimes the patient is affected with a certain puerperal irritability, not without its danger; and this occurs sometimes even in women of the most placid temper. To this irritability I have taken occasion to advert in a preceding Lecture, for it occasionally commences before the delivery is completed. Anxiety, agitation, susceptibility, perhaps morosity, are very strong characteristics of the affection, and the head and face are hot, and the pulse is frequent; 120 or 130 in the minute, with a certain smartness and quickness of the beat; the sleep at night is broken; the dreams are wild; and sometimes a disposition to delirium appears; the patient talking at random; the mind in the severer cases becoming altogether disordered. When, as more generally happens, the symptoms for three or four days together do not rise above the level here given, they gradually subside, the patient ultimately recovering. The chamber may be cooled and darkened; 20 or 30 leeches may be applied to the temples, perhaps repeatedly; the scalp may be shaved, and the head may be thoroughly refrigerated by cooling lotions, and bladders charged one-third with ice; the temperature being moderated by the interposition of one or more folds of flannel, if necessary. Relaxation of the bowels; opium, in the larger and more tranquillising doses: perhaps digitalis, in measure sufficient to operate on the system, may be found of service. Leeches seem, on the whole, to be preferable to cupping or venesection. A given quantity of blood taken away by leeches, reduces vascular action more decidedly, and acts more effectively on the body at large, than the same measure when abstracted by cupping or the lancet. In cases of this kind, it is desirable to get the milk into the breast, and to keep it there; for when phrenitic attacks occur, the milk sometimes disappears suddenly; an accident always to be regarded with some apprehension. When bleeding has been premised, and the skin is disposed to perspiration, the effect of larger doses of opium is sometimes very satisfactory. I have seen a sweat break forth upon the whole body, the pulse descending from 130 to 90, or 100 in the minute. A diaphoretic may be combined. The pulvis ipecac. cum opio is no inconvenient formula. When the irritability is purely hysterical, with quiet and patience, it usually passes away; gas, tears, groundless apprehensions, and a cloudy mind, among other characteristics, will be found of much use in the diagnosis here.

Rigors, wastings, sweatings, vomitings, purgings, and aphthæ of the mouth, may occur after laborious labours, the pulse rising to 120 or 130 in the minute, and the strength collapsing. In cases of this kind, I suspect there are often inflammation and excoriation of the inner membranes of the stomach and bowels, than which, with the exception of slough, nothing more certainly destroys the vigour of the system. Bear this in mind, when contending with these affections, and take your measures accordingly. Aromatics, chalk mixture, opium, extract of hæmatoxyli, you may give more or less abundantly, according to the effect produced, as in similar attacks, occurring after floodings; and I should recommend you, if the purging continue in spite of all your efforts, to remove the patient into the country as soon as may be. A rising ground is to be preferred. I have seen the most obstinate purgings give way under change of air. Should the weakness of the patient require it, an invalid carriage may be used during the journey, and a medical friend should accompany,

Solid food is less likely to keep up the diarrhœa than liquid aliment.

After laborious labours, your patient is sometimes affected with a retention of urine, which, in general, need not alarm. Two or three times a day the catheter may be introduced; for the less the bladder is loaded, the better. These retentions are the result of inflammation, intumescence, and perhaps some little spasm about the neck of the bladder. You will find them accompanied, too, with those inflammatory abdominal symptoms which I have been describing. Leeches, fomentations, and the catheter, are the best remedies. Abscess near the urethra may prevent the flow.

After laborious labours, again, weakness of the bladder is by no means infrequent. The patient could retain the water well enough before parturition, but after delivery this power is lost; it drips from her continually, and this independently of any solution of continuity by rupture or slough. Sometimes the contents of the bladder will come gushing away under efforts of the abdominal muscles. For months or years this incontinence may last, but more generally, unless the contusion of the bladder have been considerable, this weakness does not last for more than a few weeks. Of the method of managing these cases I shall hereafter speak at large; suffice it, at present, to observe, that much aqueous beverage, and frequent ablution of the vagina by the syringe and tepid water, are principal remedies. Blistering above the symphysis pubis, or on the lumbar region, deserve a fair trial, when the case becomes chronic.

In these laborious labours, if you have not been attentive to the evacuation of the bladder, it now and then happens, that the back part of the body gives way, making an opening into the vagina direct, two or three fingers, perhaps, being admissible at the opening. Emptiness of the bladder is the best security against these accidents, not of common occurrence; if, however, unfortunately they take place, the best method of treating them is by introducing the catheter into the bladder, and keeping it there, a sheep or bullock's bladder being attached to the lower extremity, so as to collect the water. I know of one case in which a very extensive laceration occurred, and where, by this method of treatment, the aperture healed completely, so that the woman, though the retentive powers were weakened, could, on the whole, retain pretty well the contents of the bladder. In this case there was a legal investigation, and I examined the woman more than once, as you may suppose, with no small care; and though, on the first examination, I could with ease introduce both fingers into the cavity of the bladder, where the catheter could be felt naked, yet, on investigating some weeks afterwards, I found the aperture closed so perfectly that scarcely a trace even of cicatrix could be detected.

Where there has been a great deal of pressure in laborious labours, whether from the abuse of instruments or other causes, sloughing may occur, the vagina or rectum being laid open of consequence. When slough of the cervix vesicæ is forming, the patient, at first, is incapable of passing her urine, so that the catheter becomes necessary; after a few days, however, you have the satisfaction to learn, that the water flows under the natural efforts; but no long time afterwards, you are mortified to hear that the retentive power of the bladder is lost, the water at the end of a week or two dripping from the vagina continually. About this time there comes away something which is said to be a piece of skin, and, when washed, immersed in water, and examined, it is found to consist of a portion of the bladder and vagina. Examination at this time detects an aperture in the bladder, sometimes small, but occasionally large enough to admit one or two fingers. The method of preventing these sloughs I have already stated; I have told you already that you should never permit a woman to be in labour too long, especially when the pulse is rising; that you are never to allow the urine to accumulate too largely; and that, more especially, when using the instruments, you are always to have these preparations of contusion, lacerations, and slough before your eyes, being on your guard against too much force. When the sloughing of the bladder occurs, I am sorry to say we are not at present in possession of any effectual remedy for it. You should attend to the general health of the patient, in order to give the healing powers fair play; but, without denying the possibility of closure, I may be allowed to observe, that I never saw a single case, and I have been called to many, in which the aperture has been completely healed; a great reduction of its dimensions is sometimes observed, so that there is scarcely room for the passage of a catheter, but, almost invariably, a fistulous communication remains. By means of the actual cautery, this might sometimes be healed, but the practice is rough.

A slough of the rectum is known by the escape of the feculent matter; happily this accident, more dreadful than the mortification of the bladder, is of much less frequent occurrence. Now and then, however, it does take place in country practice, as well as that of the metropolis, and several cases of this kind I have examined in this Hospital. By ligature, in some cases, and in others by an operation similar to that for

hare-lip, a closure of the aperture might, I conceive, be accomplished; and I the rather mention this, because the complaint is so exceedingly distressing that every thing, not unreasonable, may be fairly recommended to relieve it. In the course of time, the edges of the aperture become callous; solid fæces may then be retained.

In consequence of the laborious labours, a good deal of pressure is sometimes made on the nerves, the obturator, and great sciatic especially. The trunk of the obturator nerve lies much exposed, immediately below the brim of the pelvis, liable, therefore, to forcible compression when the fœtal head is coming away. As to the great sciatic nerves, their origins are seated on the *sacro-iliac synchondrosis*, being of course much exposed to compression, if the head is large or the pelvis is small. Now, in the laborious labours generally, the nerves do not suffer, or, at most, very slightly; perhaps, as the head descends, the woman exclaims, "the cramp," and she requests some person to rub her limbs; by and by the birth is completed, and after delivery the pain is felt no longer. In some cases, however, of rarer occurrence, the nervous structure suffers so severely that the patient remains more or less paralytic for months after her delivery. It is a satisfaction, to know, that though the nervous structure does not possess self-healing power, of rapid operation, nevertheless it is not so destitute of that restorative energy as some have imagined. Nerves divided by the scalpel will re-unite, as was well shown by the experiments of Haighton; (the case of the celebrated Polish general, Kosciaskow, I formerly mentioned;) and thus after labours followed by numbness and weakness of the limbs, recovery may occur, although it requires a length of time, for example, several months, for the purpose. *Et hæc hactenus.*

Instruments.—When the birth of the child is obstructed, whether from the rigidity of the parts or from the bulk of the fœtus, or from the unfavourable position in which it lies, it becomes necessary occasionally, though but rarely, to have recourse to artificial means of delivery; and these artificial means are reducible to the following, as the principal—premature delivery, the Cæsarian operation, and obstetric instruments; and we will first give our attention to instruments, always a great obstetric evil, but not always to be avoided.

The different instruments received into modern practice I now lay before you; the tractor or lever, the forceps, the perforator, and those instruments which are in use connected with the perforator, the crotchet, the blunt hook, and the craniotomy forceps. Into two classes these dreadful instruments may be divided, those, I mean, which are designed to bring away the child by reducing its bulk, and those again which are intended to abstract the fœtus without injury either to the mother or her offspring; the latter may be called the *embryospastic* instruments, the former the *embryotomic*.

When you are called to a case requiring the use of the embryospastic instruments, that is, to speak in plainer language, the tractor or the forceps, long or short, before you engage in your operations I would advise you to examine what is the state of the patient. In some cases the woman is in a state of collapse; she has been bruised and lacerated before you entered the chamber, and perhaps you are summoned to the bed side only to see her die; I have already pointed out the symptoms by which these fatal injuries may be known. In other cases, the patient is in a state of inflammatory excitement, particularly where the accoucheur has properly called for assistance in good time; the skin is hot, the tongue is white, the pulse is high; and when you take away a pint or more of blood, you find it cupped and buffed. In some cases, too, those especially which are under your own care from the first, the woman is still vigorous, and quiet, and placid, when the necessity for instruments is brought under deliberation. In all these three conditions your patient may be, after a laborious labour,—composed, excited, or exhausted; nor ought you to commence the use of instruments till the state of the system have been determined. If there is excitement, bleed.

When you make your examinations, which you should always do before you have recourse to the embryospastic instruments, in some instances the patient bears with them well enough, but in others not so, the parts are inflamed, and swelled, and irritable, and will not sustain the slightest touch. In these cases bleed from the arm to the amount of sixteen ounces, more or less; foment the softer parts, and administer, if you please, thirty or forty drops of the tincture of opium, or a corresponding quantity of Battley's anodyne; and in this manner, as in the case of turning, you may prepare the parts for the operation.

When you are thinking of using the embryospastic instruments, again, before you operate, ascertain clearly what is the state of the *os uteri*, vagina, and softer parts. If you find these parts are rigid, you must not even think of using the forceps or lever; the very thought is almost sufficient to bruise, lacerate, and destroy. But if, as more generally, you find the os externum and the os internum wide open, and the softer parts completely relaxed, contraction of the bones being the cause of the deficiency of room, you are so far justified in having recourse to the operation. Remember this, I

intrest you: if the mouth of the womb is shut, and the external parts are rigid, abusing the tractor or the forceps, you may destroy the patient; but if, on the other hand, the womb is open, and if the softer parts are relaxed, and the head is down among the bones of the pelvis, then the lever or forceps may be applied with the fairest prospect of advantage.

Again, before you apply your embryospastic instruments, even where the parts will allow it, the bladder should be emptied by the natural efforts, or the catheter, provided, indeed, the catheter can be introduced, for this is not always accomplishable. Nor must it be forgotten, when instruments are under consideration, that the loaded state of the intestine may require enemas.

Before instruments are applied, in general the position of the head ought to be made out, and with great precision. Instruments, the forceps especially, you never can manœuvre well, unless you first ascertain with nicety the bearing of the head. Without this knowledge, indeed, you may use the instruments, and you may bring away the child, not, perhaps, without an overweening self-complacency; but, after having seen a great deal of operative practice, I am persuaded you never can operate scientifically, unless the position of the head be first ascertained. When you have acquired sufficient dexterity by practice, the place of the head may be made out, by bringing the patient near to the edge of the bed, (where she ought always to lie when these instruments are used,) by lubricating two fingers of the left hand, (generally the most convenient,) and by passing those fingers up to the womb as far as may be. Proceeding in this manner, you feel the child's head; and by the roundness, the softness, the fontanels, the rising of parietal bones, not to omit the hair upon the scalp, the vertex presentation may be known. The presentation thus made certain, you may distinguish the situation, too, by passing your fingers along the sagittal sutures; at the one extremity of this suture, you find the little fontanel, of triangular shape, of small size, and with three sutures concurring at the other extremity; you detect the great fontanel of large size, diamond shape, and with a conflux of four sutures, the frontal, the sagittal, and the two legs of the coronal. There is one part of the head only, where four sutures meet, and that is the great fontanel; there are several parts where three sutures meet; hence it requires more tact to discriminate the little fontanel. Where the little fontanel is, there is the occiput; where the great fontanel is, there is the face, so that in this manner you make out the situation of the different parts of the head, with tolerable facility. But further, by observations upon the ear of the child, the observations on the fontanels may be confirmed. Unless there be an extraordinary want of room, two fingers may be passed between the symphisis pubis and the head, and there you will find the ear of the child; this, by inference, indicating the situation of the face and occiput to the sides of the pelvis. If you can feel the flap of the ear, your inference becomes still more complete, for, care being taken not to double this part, the flap always lies towards the occiput, and the part which is sessile, towards the face. Thus, then, under the vertex presentation, the most common of all, and that, therefore, on which I have enlarged the most fully—by the hair on the scalp—by the roundness—the softness—the fontanels, the sutures, the ear, you may easily make out the position of the head; and this knowledge is peremptorily necessary, if you wish to operate with instruments in a dexterous and scientific manner. Instruments are exellent in gentle and judicious hands, but most destructive if they fall into the hands of the violent and the ignorant.

Where there is a presentation of the *face*, you may sometimes be compelled to have recourse to instruments; and, I apprehend, the presentation of the face will be easily made out, for you, I am persuaded, will be able to distinguish the mouth from other apertures, though I have not always met with those who possessed discrimination enough for this distinction. To the touch of the face, in the new born child, its eyes, its nose, its mouth, and all its various features, your finger should be accustomed; and if you familiarise yourselves with the feel of these parts, there can be no difficulty in making out the presentation and situation also.

I repeat it, then, before you attempt to introduce an instrument in laborious labours, sit down tranquilly, considerately and repeatedly, if necessary, at the bed side, indeed, as often as the investigation may seem to require; and then make out by examination, to your thorough satisfaction, what is the position of the fœtus, for this knowledge is peremptorily necessary to the dexterous administration of instrumental practice. Well, this point ascertained, before you proceed further, ascertain, moreover, what is the nature of the difficulty with which it may be your lot to contend. In general, when deliveries are laborious, the obstruction arises from one of three causes—rigidity, disproportion, and unfavourable position of the cranium—of all which, we shall hereafter separately treat. Which of these causes may be in operation separately, or in conjunction, in the case under care, should be thoroughly investi-

gated. So that, if any obstetric friend were to enter the room, and say, you are going to use your instruments—why, you ought to be able to give an answer, consisting of something more than mere words.

When instruments are to be used, it is proper to place the woman in a convenient position—that position being selected which may be the most commodious to yourself. Now, some may prefer the sedentary posture, some the recumbent; some that the woman lie on the right, some upon the left; these things are relative to the habits of the operator, and to dispute about them is barren. For myself, I generally place my patient on the left side, close to the edge of the bed, with the shoulders forward, the loins posteriorly, the knees and bosom being approximated, and the abdomen facing a little downward—in a word, in the position of this fœtus. Nurses are in the habit of putting a patient in a position just the reverse of this—I mean with the loins anteriorly, and the shoulders behind (observe the image.) Keep clear of the bed-post. Sterne hated wooden bedsteads. I am sure the accoucheur has reason to hate those with four posts. If your patient wish to bear with her feet against the bed-post, she may be indulged in smaller difficulties; but, in using the forceps, (especially as you proceed with the delivery,) you will find the post in your way. In laborious labours, you must also choose your own position by the bed side; in general I kneel myself, and have a chair in readiness; so that if fatigued, I may sit down; this precaution I should advise you also to adopt.

These then are the principal steps to be taken, before you use the embryospastic instruments; place yourselves in an appropriate position; let the woman be placed in the position demonstrated, close to the edge of the bed, that the pelvis may lie under the hand; ascertain, moreover, what is the nature of the difficulty; ascertain too the position of the child, and do not blindly pull down with the instruments, without this previous knowledge; let the bladder be emptied, and the rectum, too, if necessary; let the softer parts be fomented and relieved from the great irritability; if the patient is in a state of collapse, be on your guard, because she may die immediately after, or before the delivery; if she is merely in a febrile state, or in good general health, be watchful still, though she may be expected to do well; generally, before you use the embryospastic instruments, it is proper to take away fourteen or sixteen ounces of blood. Always it is absolutely necessary that the parts should be relaxed thoroughly, and that the dilation of the os uteri should be complete.

LECTURES ON CHEMISTRY,

BY

PROFESSOR BRANDE.

Delivered at the Royal Institution of Great Britain.

LECTURE XXXV.

On Zinc, Tin, and Copper.

THE next metal on the list is *zinc*, which, although not a very important metal in the arts, is very useful for some chemical purposes, and its salts have been introduced into medicine. It is obtained, generally, from the sulphuret, or *blende*, and from the carbonate of zinc or *calamine*, by the following process: the ore having been broken into small pieces and picked, is put into a reverberatory furnace and submitted to a dull red heat, by which the sulphur and the carbonic acid are driven off from the ores which I have named. The roasted ore is then ground and washed, and eight parts of it are mixed with about one part of powdered charcoal, and the mixture is put into large earthen pots, a certain number of which are put into a circular furnace; and from the bottom of each pot an iron tube passes through the floor of the furnace into some water, which is placed beneath, and, as the pots are firmly closed by a strong lute in every other part, when they are heated to a red heat the metal distils through the tube into the water, and is afterwards usually cast into cakes. This zinc of commerce generally contains considerable impurities, such as lead, copper, now and then iron, and occasionally traces of manganese and arsenic, from all of which it may be separated by dissolving the zinc in diluted sulphuric acid, filtering the solution and precipitating the white oxide by carbonate of potash. The oxide may be reduced by igniting it with charcoal.

This *oxide of zinc* is composed of one proportional of metal 34, and of one proportional of oxygen 8, so that its equivalent number is 42; it may also be obtained by heating the metal in air; the metal takes fire at a red heat, burning with a bright flame, and is converted into a white flocculent substance, which was formerly called *philosophers' wool* and *flowers of zinc*, which you now see floating about in the upper part of the theatre. It is best prepared for pharmaceutical use by precipitating the solution of sulphate of zinc by ammonia, and then washing and drying the precipitate, because, when produced by combustion, as you have

just seen, it always contains some small particles of the metal, which makes it feel gritty. It is sometimes used as a pigment in oil and water colours.

When heated in chlorine, a *chloride of zinc* is formed, or you may also obtain it by evaporating a solution of muriate of zinc to dryness, and by heating the residue red hot. The chloride is a very deliquescent salt, and becomes converted into the *muriate of zinc* when dissolved in water. The muriate of zinc turns turmeric paper red, like an alkali, but it is not alkaline, and it cannot effect a like change on any other yellow colouring matter, such as rhubarb and others. The *nitrate of zinc* is an unimportant salt. The *sulphate of zinc* is easily formed, in the large way, by the action of hot air and water upon the sulphuret or *blende*; but a better method of procuring this substance is to act upon the zinc itself, by diluted sulphuric acid, by the action of which you are aware that hydrogen is given out from the water; oxygen is absorbed by the metal to form an oxide of zinc, which is taken up by the sulphuric acid to form the sulphate. If sulphate of iron gets into a solution of this kind, it is a very difficult matter to get it out again. The sulphate of zinc crystallises in four-sided prisms, terminated by four-sided pyramids, which effloresce a little on exposure to air; and it is soluble in about twice its weight of water at 60°. It consists of one proportional of oxide 42, of one of sulphuric acid 40, and six of water 54, so that its equivalent is 136. It is found *native* at Holywell, in Flintshire, and other places, where it is probably formed by the decomposition of the *sulphuret*, which the miners call *black jack*.

The *carbonate of zinc* is sometimes found native, forming one of the varieties of *calamine*, which may be formed artificially, by adding carbonate of potash to sulphate of zinc. It is a white tasteless matter, and occurs both crystallised and massive; its primitive form appears to be an obtuse rhomboid. It is sometimes found with carbonate of lime, in a state of imperfect crystallisation, in the counties of Somerset and Derby. Calamine, beautifully coloured by carbonate of copper, is found at Matlock; and there is another variety, called *electric calamine*, from the circumstance of its becoming electric when heated. The solution of these salts of zinc, but especially the sulphate, are not precipitated by any metals but potassium and sodium, whilst, on the other hand, zinc is very efficient in precipitating other metals, such as copper and tin, from their solutions.

The tint produced by precipitating the salts of zinc by ferro-prussiate of potash, is white, which affords a ready distinction between this metal and iron; and from the precipitate of manganese, which is also white, it may be known, by the fact of the oxide of zinc being soluble in excess of alkali, whilst manganese is not.

Zinc is an useful metal in the chemical laboratory, especially in the construction of the voltaic pile, and also in the formation of pure sulphate of zinc, which is used in medicine. It has been sometimes applied in its metallic state to the covering of houses, instead of sheet lead and copper, but it has never been very generally used for that purpose. Sometimes it has been substituted for tin in the manufacture of culinary vessels, but in consequence of its ready solution in weak acids, it has been rejected.

Tin is the next metal on our list, and it appears to have been known at a very early period, being mentioned in the works of Moses; and, according to Pliny, was obtained from Spain and Britain by the Phœnicians.

The only important ore of tin is its *oxide*, and it appears, that, in the eastern countries, this ore was always sent into the market. The oxide is opaque and rough on its exterior, sometimes polished, having a tendency to transparency. It is one of the heaviest of the metallic ores, and the metal itself, with the exception of potassium and sodium, is one of the lightest. The oxide is found native in great abundance in Cornwall, and in different parts of the world, especially in the East Indies. It is found in rounded masses of various sizes among the pebbles in the valleys, and on the coast, and is separated from the alluvial matter, and small detritus of the rocks, by passing a stream of water over it; such a process for obtaining the ore is called a *stream work*, and the tin thus obtained, a stream tin. The principal stream work was at one time at Carnon, a valley situated at the head of one of the branches of Falmouth harbour. Its reduction is easily effected; the ore is broken down into fine powder by machinery, and this process is called *stamping*; it is then washed carefully, and the oxide being mixed with a certain quantity of coke, is fused in a proper furnace, and cast into large blocks. This is the method pursued to obtain the *common tin*, as it is called, but in order to purify it, or to convert it into *grain tin*, it is placed in a reverberatory furnace with charcoal, much in the same way as in the process for the purification of iron. The oxides obtained from the mines, usually are mixed up with large quantities of the sulphuret of iron, or *mundic*, as the miners call it, from which, after the streaming, it is partly separated by washing, so as to drive off the sulphur, and the iron requiring a much greater heat for its fusion than the tin, is left in the tin furnace, mixed up with the coke in the form of slag. The tin is usually

cast into small bars, or ingots, for exportation. The specific gravity of tin is 7.30; it has a peculiar silvery lustre, not easily forgotten when once observed, and it has a greasy feel. When bent, it makes a crackling noise, and, if slightly rubbed, gives out a peculiar and rather fœtid odour; but on what this odour in some of the metals, (as, for example, also in lead and copper,) depends, is not known.

Tin is very malleable, and may be procured in leaves of considerable tenacity; but we have never been able to obtain it so thin as to be transparent, as we showed you to be the case with fine gold leaf. When fused, and about to cool, if struck smartly with a hammer, it separates into crystals, or at least into masses, which show a crystalline tendency. It melts at 442°; at a higher temperature, it is probably volatile, and at an excessive temperature it burns, which it will do readily, by submitting it to a stream of oxygen at a very high temperature. Formerly, *powdered tin*, and tin filings, were prepared for pharmaceutical purposes, and used as vermifuges; but they are dangerous to exhibit, the metal being rendered poisonous by slight oxidation when given in the first form, and creating great irritation in the last.

There are two oxides of tin. If a little nitric acid be added to tin in a state of fine division, a powerful action takes place; the metal is reduced to the state of a yellowish white powder, which is the *peroxide* of tin, and is purified by washing. If tin be boiled in muriatic acid, the metal decomposes a portion of water, or of the acid, and an oxide of tin is formed which is the *protoxide*, and is retained in solution by the acid. The protoxide of tin formed by digesting the tin in muriatic acid, may be separated from the acid by decomposing it by the action of an alkali; a greyish white powder is thrown down, which, when dried, becomes of a black colour, the water being retained in combination. The peroxide, when dissolved in the acids, gives rise to a set of salts quite different from the protoxides. The protoxide consists of one proportional of metal 58, and of one of oxygen 8, giving 66; and the peroxide, of 58 metal, and 16, or two proportionals of oxygen, giving 74 as its equivalent. Now these oxides are soluble in excess of alkali, but they require large quantities of alkali for that purpose; and as the peroxide is more readily soluble in the excess of alkali than the protoxide, it has been called *stannic acid*; however, as no neutralisation of the alkali takes place, although added in great excess, we should be suspicious in receiving this statement.

We now come to the *chlorides* of tin, of which there are two; the *protochloride*, from its analogical resemblance to the protoxides, and the *perchloride*, so named from the same reasoning. The protochloride is a very solid crystalline substance, which may be obtained by boiling tin-foil in muriatic acid; the perchloride may be obtained by exposing tin to chlorine, and heating it. All the salts formed by the solutions of the two chlorides in water, are very much used in dyeing, in consequence of the strong affinity they have for colouring matter.

The *nitrate of tin* may be formed by dissolving the peroxide of the metal in excess of nitric acid; and if we use the protoxide, it becomes oxidated, and converted into the peroxide. Neither this salt, nor the *sulphurets* of tin, of which there are two, are of very great importance to the chemist. The *bi-sulphuret* formed a substance once known under the name of *mosaic gold*; and the *sulphuret* is easily formed by combining sulphur with tin, and adding heat to drive off the excess of sulphur. Both of these sulphurets are insoluble in water, and both are convertible, by exposure to air and moisture, at a high temperature, into the sulphate of tin. Now, the *phosphate and carbonate of tin* are proto salts easily obtained from the proto muriate of tin by an alkali, and are not per salts.

The salts of tin may be recognised by their being colourless, and by the tints produced by the salts of gold upon the protoxide of tin, causing purple and black precipitates, but none in those salts containing the peroxide. If muriate of gold be added to a solution of nitrate of tin, a peculiar compound or union of the two oxides takes place, and a substance is produced called the *purple powder of Cassius*, which is much used for colouring porcelain. The principal, and, indeed, only alloy of any importance, of tin, is that with iron to form tin plate; plates of good iron are dipped into the melted tin, but it is not a mere adhesion of the tin to the iron; a mixture of the two metals takes place, the iron even at its centre containing some tin. The tin on these plates is sometimes crystallised by the application of an acid, which is afterwards varnished, and made into a variety of useful articles. It exhibits a beautiful specimen of the crystalline tendency of the metal.

Cadmium.—This is a metal which will not require our attention for a minute. It was discovered by Stromeyer, in combination with some of the ores of zinc, especially the black blende. It is soluble, like tin, in excess of alkali, but zinc throws it down from its solutions. If the ore of zinc be digested in the usual way in muriatic acid, evaporated to dryness, and redissolved in water, the solution affords a bright yellow precipitate with sulphuretted hydrogen, if cadmium be present; and by immersing a plate

of zinc into it, metallic cadmium will be precipitated. It is not likely to come into any of the ordinary uses of tin, which metal it very much resembles. According to the best analysis, its number is 56; but its combinations with oxygen, chlorine, and the acids, are not known.

Copper.—This, then, brings us to the next metal on our list, which is *copper*; a metal extensively used in the arts, and many of its compounds for medicinal purposes. It is of a reddish colour, although, generally speaking, the tints which it assumes on exposure to air, differ from that of the metal itself. It has a considerable lustre when clean, but it becomes greenish if exposed to air and moisture, absorbing oxygen and carbonic acid. It was known in the early ages of the world, and before the discovery of malleable iron, appears to have been the principal ingredient in domestic utensils, and in implements of war. Its tenacity is below iron, but above platinum and silver, and gold; its specific gravity is 8.8; it melts at a dull white heat; exposed to a high temperature, and submitted to a stream of oxygen gas, it burns with a beautiful green light, but has not yet been volatilised. [The experiment was here shown of burning copper, with the oxygen blow pipe.] You see also, that by the discharge of the electrical battery, the metal burns with apparent facility. Both the metal and its oxides occur native, and in the crystalline form. You see here a mass of crystallised copper, in which the crystals have an octaëdral form; and if they are examined carefully, you will find that they are transparent, and of a deep ruby tint.

I see that we must defer the consideration of the oxides and salts of copper until the next lecture, when we shall give you an account of the modes of obtaining it from its ores, and of its alloys, which are numerous and important.

Lecture XXXVI.

On Copper, its Salts and Alloys, and on Lead.

We are now to proceed to examine, first the oxides, and then the salts, of copper.

The *oxides* of copper are two,—a *protoxide*, composed of one proportional of copper 64, and of one of oxygen 8, giving 72; and a *peroxide* composed of copper 64, and two proportionals of oxygen 16, giving as its equivalent 80. Both their oxides are capable of forming salts, but those containing the peroxide are such only as are of interest or importance. In order to obtain the protoxide, of which this is a specimen, you may dissolve copper in muriatic acid, taking care that there is a great excess of metal; and if to that muriatic solution you add a solution of potash, there falls down a yellow precipitate, which is a protoxide of copper combined with a quantity of water. When dried, it becomes of an olive colour, and if still further dried, of a red colour. Now there are the different states of the protoxide. It is exceedingly soluble in the acids, but the salts formed are not permanent. The protoxide, on exposure to air, absorbs oxygen, becoming converted into the peroxide, and the salts containing it, originally of a dingy green, acquire the blue tint belonging to the salts of copper generally. This oxide of copper is often obtained native; and here you see a specimen of it crystallised in octaëdra. If you dissolve copper in nitric acid, you obtain a beautiful blue solution, which, when precipitated by an alkali, gives the *hydrated peroxide of copper*. [This experiment was then shown.] If you collect and dry it carefully, it loses its beautiful blue colour, becoming brown, and ultimately black, or of a deep purple colour; it is then composed of 64 metal, 16 oxygen; and it is this oxide which constitutes all the principal salts of copper.

Chlorine and copper act upon each other with great energy, and if you introduce some of the metal, as copper leaf, into a retort, and bring an atmosphere of chlorine upon it, a violent chemical action takes place; the copper inflames, and you have a new compound produced. [This experiment was shown.] There is, as you see, great heat produced, and with a yellow matter, there is a brownish matter also produced, which is the *protochloride*; the yellow being the *perchloride of copper*. The protochloride may be easily obtained, by evaporating the muriate of copper to dryness in the air. The composition of the two chlorides of copper corresponds in their proportions with the oxides, being composed of 1 and 1, and of 1 and 2. Neither of the compounds are of any particular importance; but there is a *sub-permuriate of copper*, containing one propostional of muriatic acid, one proportional of copper, and a certain quantity of water; and this compound is found native in South America, and is called the *green ore of Chili*.

The *iodine of copper* is a brownish salt of no importance. *Nitric acid* acts upon copper with great energy; the acid is partially decomposed, and the remaining peroxide is dissolved in excess of acid. In its dry state it is composed of 80 metal, and 74 acid, so that its equivalent is 154. If we now add potash or soda to this solution of copper, we throw down the peroxide in the state you see it here, which retains its blue colour, as long as it is in contact with water; but if dried, it acquires a green colour; and if you expose it to a higher heat, you drive

off the whole of the water, and obtain a peroxide. Now it is found, that, on a large scale, the blue colour may be retained for the purposes of a pigment, and it is a pure *hydrated peroxide of copper*, from a peculiar method of drying it, and there is a manufactory of this kind in Bristol. The solution of the peroxide in ammonia produces a beautiful sapphire blue colour, and this solution crystallises by evaporation; the crystals being found to be a compound of ammonia and copper, and it has been called a *cuprate of ammonia*. It is an important compound of copper, by enabling us to detect small portions of copper, by the deep tint produced. Here is a solution of the protoxide in ammonia, which is a perfectly colourless solution, but the moment it is exposed to air, oxygen will be absorbed, and the mixture will become blue, showing the strong attraction of the protoxide for oxygen, and the change of colour produced by the action of ammonia upon the oxide. Now we have, in the same bottle from which we poured out the colourless solution of the protoxide in ammonia, some copper filings; and if we pour back the solution, which has now become blue by exposure to air, and let it remain there a little, for a day or two, it will become again colourless by the absorption of its oxygen by the metallic copper. Copper and *sulphur* combine with considerable facility to form a *sulphuret of copper*, in which compound one proportion of copper 60, is combined with one of sulphur 16, giving 76. This is also a native product, and is found crystallised in six-sided prisms; it is called the *black sulphuret*, or the black ore of copper. There are several trifling sulphurets of copper, but they are to be considered rather as mechanical than chemical varieties. It is found combined with the sulphurets of iron, arsenic, lead, and so on. It is also found in combination with two proportionals of sulphur, and is then called *copper pyrites*, or the *yellow* sulphuret of copper, which becomes of dingy yellow on exposure to air, but is of a brassy colour when recently broken. This is a very important ore; because, from it we are almost exclusively supplied with the pure copper, and it is very abundant.

The process for obtaining copper is very simple and beautiful, as far as the theory goes; but many practical difficulties attend the production of pure copper, requiring great skill on the part of the reducer to get over; especially to get rid of the arsenic, lead, and other minerals, with which it is combined. I can only here give you an outline of the process, which is essentially this: the ore is first broken into little pieces, or cobbed, as it is called; it is then roasted, by which a great deal of water, sulphur, arsenic, and other things, are driven off. It is next introduced into a reverberatory furnace of the same kind, as for the reduction of iron, and managed in such a way, that the carbonaceous matter of the flame may play fully upon the heated ore; the consequence is, that the sulphur is burnt, the copper becomes oxidised, and imperfectly reduced; and thus the mass or *slag* is formed, which, by a repetition of the process, the oxide fuses in contact with the carbonaceous matter of the fuel. The metal is thus gradually reduced, and by a number of processes, it begins to acquire more and more of a coppery colour, until it is fit to let run out into water, or cast into ingots or moulds, for common uses. There is a great variety in the quality of copper, and the granulated is generally purer than that which is rolled out into sheets. The sheet copper is produced, by passing the ingots whilst hot, between cylinders of iron in the rolling mills. There is a peculiar red colour belonging to copper, obtained by heating it, and exposing it to air; this colouring depends upon the imperfect oxidation of the surface of the copper, and the tinge the copper has, is usually resorted to as a test of its purity. It is a singular thing, that nothing gives it this red colour sooner than urine, and heated copper is, therefore, plunged into urine, for the purpose of giving it this red appearance, which is, probably, owing to the ammonia contained in it.

If you examine copper minutely and nicely, you will generally detect in it traces of other metals, such as iron, lead, zinc, and arsenic; the latter is very common. If you wish, for any particular purpose of chemistry, to obtain pure copper, many processes may be resorted to; but the simplest consists of dissolving copper in nitric acid, and immersing into the solution a plate of iron, which will immediately cause a precipitation of the copper upon the iron. You then collect the copper, and if you wish to make it still purer, you dissolve it again in nitric acid, and precipitate the solution by potash; you then melt the powder obtained, by mixing it with a flux of any kind, and exposing it to a brisk heat; and you then obtain a very pure copper, which may be rolled out into any shape. It becomes an object, occasionally, to be able to discriminate the qualities of copper, and if you find, in the copper of the shops, that the metal is not perfectly homogeneous throughout, if I may use the term, but contains portions of the oxide, such portions will always form a galvanic, or electric contrast to the neighbouring portions, and will wear away very quickly. Formerly, when copper was manufactured in less quantities, and with more care, it was certainly more durable than at present.

When the sulphuret of copper is exposed

to the air in its roasted state, it becomes converted into a *persulphate of copper*; accordingly, if you examine the water which runs from the heaps of roasted ore and from copper mines, you will find that it contains large quantities of copper. Formerly this was allowed to run to waste, but now it is collected in tanks and precipituted upon iron; and in this way considerable quantities of copper are saved. By evaporating this solution you obtain a beautiful rhomboidal salt, which is persulphate of copper. It consists, in its dry state, of one proportional of peroxide 80, and of two of sulphuric acid 80, so that its equivalent is 160; but in its crystallised state it contains ten proportionals of water; so that, if you expose 250 parts of the crystallised salt to heat, you will obtain 160 parts of the pure salt. Now this compound of copper, this persulphate of copper, is commonly called *blue vitriol*. There is, I believe, no protosulphate of copper, because if we try to dissolve the protoxide in sulphuric acid, we get a persulphate and metallic copper. It is a salt of copper very much resorted to by the makers of colours, especially by paper-stainers, and for painting in distemper, and so forth, and it is necessary, for their purposes, that the salt should be quite pure. There are two or three manufactories in the vicinity of London for the making of this salt, and there the peroxide is dissolved immediately in sulphuric acid.

Phosphorus and copper combine to form phosphites and phosphates of copper, but they are compounds of no use. A *sulphophate* of copper is found native near Cologne. If you precipitate the persulphate of copper with any carbonated alkali, you obtain a bulky precipitate, known in commerce under the name of *verditer*, which is a *hydrated carbonate of copper*. If we collect this precipitate and dry it, it pretty quickly acquires a blue colour, and it is then known under the name of *blue verditer*, and if dried slowly, the green colour being retained, *green* verditer. It furnishes a variety of tints, very useful for water colours, and when used with size or glue, for the staining of walls and places under cover. The *carbonate of copper*, which is exhibited here, exists native, and is a *sub-percarbonate*; that is to say, it consists of one proportional of peroxide of copper and carbonic acid 30, and 22 of carbonic acid. If collected and dried in a considerable heat, all this fine blue tint gradually vanishes, and it acquires a deep brown colour, losing its carbonic acid and becoming converted into a peroxide of copper; and with regard to it, I should have stated, that it does not lose any oxygen at a red heat, but if you mix it with any combustible substance, it imparts oxygen to it, and therefore it is often used for the purpose of decomposing animal and vegetable matter. Here is a specimen of the blue carbonate of copper, from Chepstow, and here a specimen of the green carbonate, or *malachite*, as it is sometimes called, from Siberia, where it is sometimes found in such large masses as to be made into tables, snuff boxes, and other things; but it is rather too soft for tables, although the polish of it is beautiful.

If you add a solution of *ferrocyanate* of potash to any solution of copper, you obtain a rich brown precipitate, which is a *ferrocyanate of copper*, which has been proposed as a pigment, since it mixes well with water and oil. The ferrocyanate of potash is one of the most delicate tests we have of the presence of copper; and I shall endeavour to show you the delicacy of this test, and the contrast which it affords to ammonia. In the first place, we will prepare a very delicate solution of copper, by adding a drop or two of sulphate of copper to either of these portions of water; and you see that there is no change produced in the appearance of either, but it will be seen to be extremely sensible of the action of the test. This, which I now add to the solution, is ammonia, which you observe indicates the presence of the copper by a very slight tinge of blue; this, which I now add to another solution, containing, you will recollect, the same quantity of copper, is the ferrocyanate of potash, which shows the presence of copper by a brown cloud, much more decisively than by the blue of the ammonia. You will have no difficulty then in determining whether any fluid contain copper by these tests; and if you remember that copper is very soluble in nitric acid, you might add a little of it first to the fluid, so as to expose the copper more perfectly to the action of these tests. The blue colour of the solution of the salts of copper, and the precipitation of the metal upon iron will serve to characterise them; but then it must exist in considerable quantities to do this; and I mention to you the test of copper, the ferrocyanate of potash, because it is more delicate than either of the others, and will enable you to detect it in very minute quantities in food, it being used foolishly to give preserves and pickles a fine colour. When copper is taken in the food for a long time, it creates pains and spasms in the bowels and stomach, and convulsive symptoms, not unlike the shiverings of an ague fit, coming on at stated intervals. I have seen such quantities of copper in confectionary, as to have a precipitate of the metal upon the knife with which the cake was cut. Cooks sometimes put pence into the water in which the vegetables are boiled, to give them a fine colour, which is an erroneous notion, for if the coin and the pot be clean it can do

neither good nor harm. I once detected copper in pump water; it had a greenish tinge when looked at in some directions, and I found that a part of the pump was made of bell-metal, which is a very injudicious thing; but that water did not give a precipitate when treated with ferrocyanate of potash, until nitric acid was first added, and then the precipitation was very abundant. These two tests, then, will be ample for the detection of copper.

Copper forms, by admixture with other metals, several *alloys*, some of which are important. *Brass* is a compound of from 12 to 18 per cent. of pure copper; the pale brass contains as much as 20 per cent. of zinc. All the varieties of *bell metal* are alloys of copper and tin, most commonly in the proportions of three parts of copper and one of tin. The metal used for reflecting tubes, or *speculum metal*, is made of six parts of copper, two of tin, and one of arsenic. *Bronze* is a compound of about eight or twelve per cent. of tin with copper. The alloy of copper, tin, and lead, forms *cock-metal*, from which brass cocks are manufactured. There is one observation which I have to make on the use of copper in the arts, that is, the *tinning* of copper. People are aware of the danger of using copper vessels in the kitchen, and therefore they have the copper kettles, and so forth, coated with tin; but the tin is rubbed off, or broken off, by accident, and a part of the copper surface is exposed; and if any acid should happen to come into contact with it, the copper is taken up and mixed with the food. Such has often happened with the vile stew pans of the London kitchens; but people now are getting wiser, and they use thick tin plate, which is much safer, and if kept clean, perfectly unobjectionable. I am decidedly of opinion, that, under no circumstances, should copper be used for culinary purposes, especially when children form part of the family; milk, which is their principal food, being easily soured and impregnated with copper.

Lead.—The next metal on our list is *lead*, which is well known in its general habitudes; it is soft, malleable, but wanting exceedingly in ductility. Pure lead may be obtained from the nitrate of lead, by heating it with charcoal in the usual way, when you obtain globules of lead. Lead is seldom pure, being generally combined with silver, but in such small quantities, that it is not worth extracting.

Lead is capable of three degrees of oxidisation, but there is no complexity in this respect, because only one of them is capable of uniting with the acid to form salts; the first oxide contains one proportion of metal and one of oxygen, and is the *protoxide*; the second is composed of one proportional of metal, and one and a half of oxygen, and is the *deutoxide*, *minium* or *red lead*; and the third is composed of one of metal and two of oxygen, to form the *peroxide* of lead, which is a brown powder, obtained by acting upon minium by nitric acid. If you heat lead intensely, like other metals, it first enters into fusion, boils, and, in a high temperature, it burns with great brilliancy, throwing off yellow fumes, which are protoxide of lead, or, as it is called in commerce, *massicot*. [This experiment was shown.] Now, then, as to the mode of obtaining the *protoxide*, or that which forms the basis of the salts. For the purposes of experiment, it may be obtained by heating nitrate of lead, so as to drive off its nitrous acid and oxygen, and there remains the protoxide of lead. By precipitating the lead from its solution by an alkali, you may also procure it; but in that case it falls down in combination with water, so that although we are in the habit of calling such precipitations oxides of the metals, you must remember that they are, in fact, hydrated oxides.

If this protoxide of lead be exposed upon a large shallow surface, to the action of heat and air, it passes gradually to a red colour, absorbing a quantity of oxygen by so doing; and if you boil minium and nitric acid, or, indeed, merely digest it in the acid, you will find that the oxide separates itself into two portions, an insoluble brown powder, which falls at the bottom of the vessel, the peroxide; and into an oxide, which unites with the nitric acid to form nitrate of lead, which is the protoxide. So that, generally speaking, the salts of lead are compounds of one proportional of lead, one of oxygen, and their peculiar acids.

The action of *chlorine* upon lead, will be considered in the next lecture.

FOREIGN DEPARTMENT.

ON THE OPHTHALMIC AND THE SPHENO-PALATINE GANGLIA IN THE HORSE.

BY A. RETZIUS.*

Some anatomists, among whom are MM. Girard, Schwab, Gurlt, admit the existence of the ophthalmic ganglion in the horse; others, as MM. Muck, Desmoulins, and, more especially, Tiedemann, deny it. The numerous researches of M. Retzius on this point have decided the question; the ganglion has been observed by this anatomist, of which he

* Kongl.—Vetenskaps.—Academ. Handlingar. 1826.

gives a detailed description, as well as of all its filaments of communication. The spheno-palatine ganglion also exists in the horse, a fact which has been denied by M. Desmoulins. Surrounded by cellular tissue, the spheno-palatine ganglion of the horse is composed of a series of smaller ganglia, but the whole of which, joined to the nerves which are near it, may almost be considered as a small system of its own.

ON THE DISTRIBUTION OF THE ARTERIES IN THE HEAD OF THE SHEEP.

BY DR. J. C. L. BARKOW.*

The arteries of the head of the sheep are very remarkable in their distribution. The common carotid gives off collateral branches before it divides into two principal trunks, from which all the other branches are given off. The branches which pass off before the principal bifurcation are—the superior thyroideal, the ascending pharyngeal, the occipital, the lingual, the posterior auricular, and a parotidean. The external maxillary artery is wanting, and its branches are furnished by other vessels. The common carotid bifurcates into the facial and internal maxillary; the facial furnishes the anterior, auricular, and the temporal; it is continued under the name of transversalis faciei, which gives off the coronary artery of the upper lip. The inferior coronary is furnished by the mental, which is itself a branch of the internal maxillary. This latter is a very important artery in the sheep, for it not only furnishes branches to the face, but also all those which, in man, come from the internal carotid. It gives off on each side three branches, which penetrate separately into the cranium, where they ramify in the *rete mirabile*, from which they pass to form the simple trunk of the cerebral arteries, which communicates with the basilar, and is distributed to the brain. As there exists no internal carotid, the carotid canal is wanting; the sulcus, which is observed on the sides of the sella tursica, and which resembles the carotid sulcus in man, contains only the inferior cerebral vein, which passes from the cranium by the spheno-petrosal fissure.

The ophthalmic artery is also a branch of the internal maxillary, and furnishes the ethmoidal artery and the posterior ciliary; the central artery of the retina, on the contrary, arises from the trunk of the cerebral artery, when it has passed from the *rete mirabile*; the olfactory nerve, also, receives some very small branches from this vessel. The internal maxillary furnishes the inferior maxillary to the face, which receives the name of mental, after having passed from the mental foramen; the superior alveolar and infra orbitar, which gives off a pterygoid branch; it terminates in bifurcating into two branches, which receive the names of pterygo-palatine and spheno-palatine.

With respect to the branches which pass off from the common carotid, it is necessary to be observed, that the ascending pharyngeal and the occipital arise from that artery before the lingual; and with respect to the superior maxillary, the first cerebral branch arises between the inferior maxillary and superior alveolar; the two other cerebral arteries, and the ophthalmic, are situated between the superior alveolar and infra-orbitar.

* Nov. Acta Acad. Natur. Curios. Tom. xiii. pars i.

FIVE CHILDREN AT ONE BIRTH.*

A woman, ætat. 27, who had been married five years, of a middle stature, robust constitution, after having been delivered of twins two years before, was brought to bed of five children. She went the regular time without any thing remarkable occurring, except a sense of weakness and an occasional loss of appetite and sleep. The first child passed out easily after the membranes had been ruptured; the others came more slowly, and the last with great difficulty. Each was inclosed in a particular bag, and immediately followed by its placenta: all came with the head presentation. The two first were boys, then a girl and a boy, and lastly a girl. They all died before the third day. Their length, in general, was from 15½ to 16½ inches; the second boy did not weigh two pounds after his death. Although regularly formed, they did not appear to have arrived at perfect maturity. In the boys, the umbilical cord was 16 inches long, and 12 in the girls; no pulsation could be felt at the time of birth. The children had an old look; their voice was tremulous, they slept continually, and their temperature was very low. The mother, although weak, soon recovered.

* Gemeinsame deutsche Zeitschrift für Geburtskunde. Tom. ii. 1827.

BONY CONCRETIONS IN THE SUBSTANCE OF THE PLACENTA.†

In Dresden and its environs, Professor Carus says, that ossific deposition in the placenta is observed in two or three, and sometimes in five or eight, cases in a hundred. It is most frequently found in women of a scrofulous or cachectic diathesis, or those subject to nervous affections. These concretions never exist on the internal or

† Archives Générales, Fevrier, 1828.

fœtal surface of the placenta, being always found near its uterine surface, where they are generally collected together in patches, and not scattered throughout its whole extent. Their consistence varies from that of albumen to that of stone. Their component parts are phosphate and carbonate of lime, phosphate of magnesia, and a very small quantity of sulphuric acid, probably in combination with some base.

M. Carus is of opinion that they proceed from the mother and not from the fœtus, and compares their formation to the production of the solid covering of the egg in birds and in some species of reptiles. These concretions give rise sometimes to no bad symptom; they however more frequently occasion adhesion of the placenta, inflammation of the womb, &c.

CONGENITAL ANASARCA IN A CALF.

BY DR. JAEGER.

On opening the body of a cow which had been pregnant eight months, Dr. Jaeger found a calf, the entire surface of which was white, and deprived of hair, with the exception of certain spots. A serous fluid, rather dense, analagous to the liquor amnii of the cow, filled the subcutaneous cellular tissue, and passed off by the natural apertures of the body, and by the surface of the skin, without any incision having been made. It was supposed to be about fifty pounds in weight, that is to say, about half of the weight of the animal; the bones appeared to be regularly formed; the sternum and ribs were not developed as much as the rest of the body; this want of development was also observed in most of the organs contained in the thorax and abdomen. The lungs were very small and compact, and presented, on being inflated in the superior lobe, the appearance of elongations, similar to those which are observed in the lung of the cameleon, and, in the inferior lobe, that of a membranous bladder, transparent, and lined by a substance of a reddish colour; the lungs of this animal resembled, in a great degree, those of reptiles.

SYPHILIS COMMUNICATED BY LEECHES.*

In a journal entitled *Westphaelischer Anziger*, a physician relates a case in which leeches, used at first on a person affected with syphilis, and again employed on a child, communicated the disease to it. It is, therefore, necessary to know, when leeches are employed a second time, on whom they have been previously applied.

* Notizen a. d. Gebiete der Natur. und Heilkunde, tom. xviii., No. 7, p. 111.

FRACTURE OF THE TIBIA IN A FŒTUS.

Communicated by M. CARUS.*

A servant, 25 years of age, and of a robust constitution, having fallen on her abdomen in the sixth month of pregnancy, felt the movements of the child very strong, which, however, soon ceased. The delivery took place in the usual way; the child was thin, weak, and manifested but few signs of life. A transverse wound was found in the right leg, nine inches long, passing from one malleolus to the other, penetrating through the skin. The tibia was fractured, and in such a manner, that the malleolus was separated from the rest of the bone. The tibia was thrust outwards, presented a bad appearance, and had lost its periosteum. The edges of the wound were pale and flaccid. The fracture could not be reduced, because the edges of the wound were sphacelous, and the necrosis was of such great extent. The child died on the 13th day after birth. This is another proof, says M. Carus, that, during the fœtal state, diseases may be endured, which after birth prove fatal.

* Gemeinsame Deutsche Zeitschrift für Geburtskunde: Tom. ii., cah. i., 1827,

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SURGICAL ARRANGEMENTS AT ST. BARTHOLOMEW'S.

To the Editor of THE LANCET.

SIR,—I was somewhat surprised to day, when I heard Mr. Earle speak of an old, and, as I consider, most absurd, custom, which has for many years existed in the Hospital of St. Bartholomew, and apparently without any appearance of its being removed. One might almost be led to suppose, from its having lived so long, and without the least molestation, that it was sacred, and that it would be death to those who dared to raise arms against it; but surely, being a grievance, it will be removed, and to effect this I consider the very appearance of the scalpels, &c. would overturn, and set at rest this formidable enemy.

In a few words, the grievance is this:—each surgeon, alternately, contrary to all the other rules which are laid down, takes all patients brought into the Hospital, labouring under stone in the bladder, for the short period of six months, neither a day more nor less, but just six months; and during that time, he must operate upon such patients as are the subject of that formidable complaint. Now, Mr. Editor, whatever could have been the motive for

such a regulation, I know not, nor shall I for one moment consider. Neither can I tell who was the first to propose, and bring into effect, that which is an annoyance to the present surgeons; yet they, as if bound by *grim law*, had not the *courage* to shake off that which appears desirable.

I think something may be said in favour of its immediate *death*, without subjecting it either to *judge or jury*; and as it is not to be strangled *in utero*, that time having past, strangle it now it has become old, and make room for more. We will suppose a patient applies to the Hospital for admission, labouring under stone, and that he wishes to put himself under the care of one particular surgeon, whom he has employed as his family surgeon, when the man's circumstances were good: he is told that it is not that particular surgeon's—what! why not week, *but six months!* We know very well that some patients prefer one medical man to another, and that such, labouring under any chronic disease, have only to wait a few days, when they can put themselves under the care of any of the three surgeons. Perhaps it might be answered that beggars must not be choosers: no; but then, when they can be accommodated in this particular, without the least inconvenience to the surgeons, I don't see why it should not be done.

If you think the above remarks worthy a corner of your valuable Journal, you can make what use you think proper of them.

Your obedient Servant,

A SUBSCRIBER.

March 22, 1828.

INADEQUATE REMUNERATION OF MEDICAL ASSISTANTS.

To the Editor of THE LANCET.

SIR,—I perceive, in your Journal, two communications have lately appeared on the subject of the "inadequate remuneration of Medical Assistants;" the first is from "An Old Practitioner," who is, certainly, well acquainted with the evils complained of, and who suggested a remedy for the same, but at present has not applied it. The other letter is from "A Young Practitioner," and is an echo of the former's statements, hoping by that to revive the plausible sympathies of the writer.

I can readily conceive how stationary the point at issue will remain, if they mutually anticipate each other by silence; but as their delay has afforded me sufficient time to investigate the general merits of the question, from a most rigid and impartial inquiry, I am enabled to offer these few remarks on the abuses complained of.

I shall briefly notice the different classes among assistants, and the remuneration of each.

Medical assistants may be ranked under three heads—the visiting, the visiting dispensing, and the dispensing solely. The visiting assistant is required to have passed the Hall, and be fully acquainted with every part of his profession, midwifery included; he has assigned to him the most laborious part of every practice, and is exposed to all the casualties of it; for these services the general amount of salary is 40*l.* a year, very often it is much below this, and, whenever it exceeds that sum, the individual may consider himself to have arrived at the maximum of perfection.

The 2nd class is the visiting dispensing, who is required to attend to both departments, as occasion may require, and the most general salary is from 30 to 35 guineas per annum.

The 3d and last, though not the least meritorious, is the dispensing assistant solely; which involves the most tedious and confining part of either, and who really receives the most undue remuneration for the sacrifice of his time and health; the salary is from 20*l.* to 30*l.* a year, sometimes less, but very rarely exceeds that sum.

That this subject both requires investigation and reformation, no one, I think, can deny, who reads this epitome of its present condition; the point has been often talked over, but no one has had the cause sufficiently at heart to advocate it; the proposals of your correspondents entirely agree with my own; there only requires a common centre, to which its good effects should be concentrated and made known,—this centre is unanimity among themselves.

Being a sincere wisher for the success of the original proposal of your first correspondent, I feel diffident in intruding any notions of my own to counteract his intentions; but as he has so long delayed, I fear we must consider his scheme as relinquished; however, if not, they, uniting with these, double strength will be acquired; for my proposal is to take the general sense of the great body of assistants, for which purpose the signatures of all interested on this occasion are requested.

And now, Sir, as your Journal has been the parent and fosterer of many successful attempts to improve the condition of several branches of the profession, I trust this appeal will not be considered beneath your notice, and that, through your Journal, the disadvantages under which medical assistants labour will become fully known to the medical world.

I have drawn up a paper, signed by half a dozen respectable individuals, three of whom are engaged in situations similar to the three I have described, and of course can vouch for the truth of my statements; and should it not be requiring too much of you, we propose requesting permission to allow it to remain for signature at your office for a few days; or, if that should be in the least inconvenient, we will place it at a medical bookseller's. Trusting, Sir, you will insert this in the columns of THE LANCET,

I remain, your constant reader,
A MEDICAL ASSISTANT AND MEMBER OF THE HALL.

South Audley Street,
Grosvenor Square.

ADVANTAGES OF THE WESTMINSTER HOSPITAL.

To the Editor of THE LANCET.

SIR,—Your Correspondent "Philalethes," and Mrs. Candour in the play, are evidently children of the same family; under a veil of ludicrous plausibility, both vainly endeavour to conceal the petty malice which is their real spring of action, and, under the pretence of public good, visit their more deserving neighbours with merciless vituperation. In reply to this gentleman, I shall rest my argument on matters of fact only, and I will not attempt to imitate either his logic or politeness.

If Philalethes (industrious as he would be supposed to be in the pursuit of science) had been truly desirous of making the best use of the advantages afforded in this excellent institution, he would have found no difficulty in getting access to any case; a mere intimation of his wish to one of the resident medical officers, would instantly have insured to him every facility of investigation; and if he, or any one else, will "at any time" apply to Mr. D. O. Edwards, Mr. Lant Smith, or Dr. Batles, he will be enabled "to question any patient he may select, or take notes of any case."

Mr. Smith, the house surgeon, goes round the wards every morning at ten; at which time every student who chooses, may accompany him, and assist in dressing and in performing the minor operations; yet so little do the "industrious" pupils of this hospital avail themselves of the opportunity, that seldom more than one or two are present.

Post-mortem examinations are always made when the friends of patients do not interfere to prevent them, and within the last six months, only three instances have occurred, in which inspectio cadaveris was omitted, and these were owing to the cause above stated. So far from being badly conducted, these examinations are performed with the greatest care, and a register is kept by Dr. Batles, the clinical assistant, in which the morbid appearances are accurately detailed. This book is open to the inspection of any individual, and I have no doubt that Dr. Batles will, with his usual urbanity, accommodate to the utmost of his power, Philalethes, or any other gentleman who may wish to make inquiries on subjects connected with the hospital.

Public notice has very frequently been given antecedent to these inspections, but without any increase of attendance on the part of the pupils; and the two or three students who are constantly present on these occasions not requiring the stimulus of a placard in their pursuit of knowledge, the practice has been discontinued for the last two months.

Many of my fellow pupils, I fear, are satisfied with literally "*walking the hospital*," and consider they have done their duty to their parents, to themselves, and to society, by joining in the *march of intellect* on Wednesdays and Saturdays. Your readers will judge if Philalethes belong to this class. I suspect his visits to the dead room are "few and far between," and that his zeal in detraction has led him to make assertions before ascertaining their truth. Notwithstanding the horror it may excite, I shall once more commend to him the word *Circumspice*, being convinced, that if he will but use his eyes and right hand in the proper place, he will find much more profitable and satisfactory employment than in dissecting the characters of his superiors.

Your obedient servant,
WESTMONACHUS.

WEISS'S FEMALE URETHRA DILATOR.

To the Editor of THE LANCET.

SIR,—Seeing a letter in your Journal of the 15th of last month, respecting the female urethra dilator, I am reminded of the circumstances connected with its invention. My friend, Dr. Nuttall, of Norton Street, Fitzroy Square, was requested to visit a patient, in consultation with Mr. M'Nab, the surgeon of St. Martin's Lane. The result of which was, that the patient was considered to be affected with a calculus of the bladder; and Sir Astley Cooper was invited to examine the case, in order that he might form a conclusive opinion, as to the means that should be adopted. Sir Astley advised extraction of the calculus through the urethra, after it had been dilated. Dr.

Nuttall fully concurred in the propriety of the suggestion, but objected to the proposed means. He thought the dilator then in use as badly designed, acting, as it did, on the principle of diverging lines, and by consequence dilating, in an unequal degree, different parts of the urethra. He objected also to the sponge-tent, as a painful and clumsy operation, and suggested as a substitute for either, the use of a dilator that should act upon parallel lines, forced asunder by a screw; thereby enabling the operator to dilate equally every part of the passage. Dr. Nuttall accompanied Sir Astley to Mr. Weiss's; the instrument was made by Mr. Weiss, in conformity with the principle spoken of above, and succeeded in the case I have mentioned, in a manner that satisfied the most sanguine expectation.

Your obedient servant,
JOHN SMITH.

March 27, 1828.

ABUSES IN THE WESTMINSTER HOSPITAL.

To the Editor of THE LANCET.

SIR,—Having perceived in the last Number of your publication that some person had endeavoured to vindicate the conduct of the Surgeons at the Westminster Hospital, from the charges brought against them by "Discipulus Æsculapii," I beg leave to remark, that the statement of "Westmonachus" is entirely false. I suppose that an account of the vacancy of the "*apothecaryship*" at that Hospital, has induced some of the *worthy* young men to deviate from the impulse of their own consciences, to obtain the favour of the surgeons. "*Quisquis pro se.*"

Among other disadvantages attending that Hospital, I have to observe, that the "post-mortem examinations" are carried on without any previous notice, and the students are thus deprived of this most valuable source of professional investigation. I hope I shall not be obliged to occupy your pages with any more complaints, hoping that this will be sufficient to influence the surgeons to adopt some plan for the better regulation of this important branch of pathological research, and in their attendance at the Hospital, which I still affirm has been grossly negligent, but am happy to say is a little improved since the appearance of my last letter.

I remain, Sir,
Your obedient Servant,
"DISCIPULUS ÆSCULAPII."

March 23, 1828.

HOSPITAL OF SURGERY,

Panton Square, St. James's.

SINGULAR DISEASE OF THE TIBIA.—AMPUTATION.

J. S. ætat. 40. There is a circular ulcer nearly the size of the palm of the hand, on the fore part of the left leg, about its middle; its surface is elevated above the surrounding integuments, and consists of numerous irregular granulations of a peculiar florid red colour: from the centre of the sore arises a large irregular excrescence of a *horny* consistence, which is firmly attached to the tibia, portions of which the patient is in the habit of paring off. The ulcer discharges an acrid sanies of a most offensive odour. He suffers constantly excruciating pain, which he describes as producing the same sensation as if knives were run into his leg. He is otherwise in good health.

He states, that 22 years ago, whilst on duty as a soldier, he received an injury on his leg, which laid bare the bone to such an extent as to induce the medical officer to advise the removal of the limb at that period. Some time after, several splinters of bone were taken away. Since then, the sore has always remained open; and within the last three years, the horny excrescence began to shoot out. He has been in several of the western depôts for medical science, where a variety of remedies were employed, but only with temporary relief. The pain and annoyance have, of late, been so great, as to prevent him following any occupation. In this distressing situation, and no hope being held out to him of a remedy, he was advised to submit to the removal of the limb, for which purpose he was admitted into this Hospital, and on Sunday last the

Operation

of an amputation below the knee, was performed by Mr. Wardrop, two lateral flaps being made with a common scalpel. Three vessels were secured, and the edges of the wound were brought together with sticking plaster.

This operation was not well executed, the tibia having been entirely divided before the saw came in contact with the fibula.

THE LANCET.

London, Saturday, April 5, 1828.

We have been informed, on authority in which we are disposed to place confidence, that the Marquis of Anglesea, Lord Lieutenant of Ireland, has recently issued orders to the managing Committees of the Hospitals in Dublin, receiving support from Government, to furnish him with an account of the fees paid by pupils for attendance in these institutions. The object of the vice-regal mandate, we are given to understand, is either to reduce these fees from the present rate, to appropriate them to the use of the charities, or to throw the latter entirely open for medical and surgical instruction. The two great Hospitals of Dublin, Stevens' and the Richmond, in which the price of admission is most exorbitant and severely felt by students, from attendance at these establishments being required by the London College of Surgeons, come under the operation of this scrutiny, as receiving support from Government; so that, if a retrenchment of this kind be carried into effect, it will fortunately reach those places in which the evil exists in its greatest extent. But whether the intentions of his Excellency turn out in accordance with our information or not, the question, we conceive to be one of sufficient importance to be fully brought before the public, and the occasion to be favourable for its investigation. The subject, like most others affecting medical education, has been frequently adverted to both by ourselves and many intelligent correspondents; and we have little doubt but the attention at present directed to it, has been the consequence of such discussion. The sense of all the disinterested portion of the profession, awakened to the consideration of the abuse, by the facts and reasoning recorded in these pages, has been taken on its enormity; and we know, that in the observations which we have to make, we shall only re-echo the opinions, and comply with the wishes of the great majority of the surgeons and physicians of Great Britain and Ireland. Besides, we have not ourselves, though the topic has been repeatedly alluded to incidentally, hitherto given it such an examination as it obviously demands; or placed it in all those relations, demonstrative of its injurious influence, of which it is susceptible. These fees, have, in fact, latterly been raised to such a height, and are exacted under such anamolous circumstances, that we can discover no means by which they might be prevented from being carried to a still more extravagant rate, or reduced from their present exorbitant standard, except by the force of that popular opinion, which we are about to direct against the abuse. For, however startling the announcement may be to all interested in medical education and the advancement of the medical sciences, there is really no other power than that of opinion, to prevent the oligarchy of the London and Dublin Hospitals from absolutely closing up these establishments by excessive charges against all students, except their own sons and nephews, and those to whom they wish to make a present of admission. This possibility, or extreme case, which we have merely adduced to show the necessity of altering a system by which such an injustice might be committed, arises entirely from the undefined authority, or rather, usurped right, by which the oligarchy have extended their claims from time to time, until they have at length operated as a positive prevention to the acquisition of medical knowledge, both in this country and in Ireland. The axiom, which the experience of history has proved to be correct, that, the more imperfect the right, the more certain and noxious the oppression, would seem to hold equally valid in medical, as in civil taxation. In those cases, for example, where a tax, or contribution of any kind, is defined

by law, discretionary exaction is at least provided against; but in those instances where individuals are empowered to collect all they can, or when the imposition of taxes is a pure usurpation, the severest grievances are the invariable results. From the commissioned revenue-factor of an eastern despot, the subject has no other protection than his own insolvency, or the capricious avarice of his oppressor; and in those instances at home in which corporations have assumed a right of mulcting their fellow-citizens, the excessiveness of the demand will be generally found to be in proportion to the assessor's deficiency of title. For the purposes of exaction, there is nothing like obscurity of claim—it is the cap of Fortunatus, the Aladdin's lamp, of the thorough-faced impostor—the night under whose shelter he demands with safety your property in the very light of day. Placed in analogous circumstances, the Agas and Proctors of our hospitals transcend, in excess of demand and impropriety of object for taxation, the extortions of their prototypes professing the tenets of Koran or Bible. Either usurping a right to impose fees on pupils, or deriving a fictitious authority from persons supposed to possess such a power, (for we are neither convinced that the medical officers of our Hospitals can show a deed of permission from the incorporated governors of these establishments to buy a revenue from students, nor that the governors themselves are authorised to grant any such delegated faculty to others,) they proceed on such an imperfect title to exact the most extravagant charges, for the acquisition of a species of knowledge, the most indispensable to mankind. On the opportunities of studying disease being made perfectly accessible to all, this information, so essential to the welfare of the human race, almost entirely depends. Hospitals are (or should be) the sources whence health is distributed through every department of the community, as life and nutrition are circulated through the system from the heart. To seal up, by impossible conditions of attendance, to the majority of pupils, these sources of instruction is, in point of turpitude, on a level with poisoning the springs from which the public are supplied with one of the necessaries of life. The hospitals over which this oligarchy preside, are not only rendered inaccessible to many, and almost useless to all, from the manner in which the business in them is conducted, but by a by-law of our college, they prevent provincial charities from becoming substitutes for our metropolitan establishments. For the fees which they exact from pupils, though the pretext for imposing such fees is the communication of instruction, they in nine cases out of ten make no compensation. Indeed, it may be here observed, that the most ultra supporter of this system does not claim fees for the mere inspection of the patients of a hospital, but for the information presumed to be derived from witnessing his practice, and from his personal instructions in clinical lectures. But even if this hypothetical compact were as honestly fulfilled as it is notoriously violated, it would not justify the exaction; as we are prepared to show, that hospital surgeons, according to their present rate of talent, are more than indemnified for the *trouble* of attending these establishments, and the delivery of clinical lectures in another way. Exacted without a legal right, appropriated without observing the obligations of commercial contract, and deflected from their legitimate objects, to which, under every condition of the case, they should be applied, these fees have no precedent in the institution of other countries, and would be tolerated in this alone, and here alone would men be found sufficiently venal to receive them without remorse. Of the consequences of this system of taxing the acquirements of the most necessary species of human knowledge, it would be premature to speak here, as we shall have to show hereafter, that if there be

one course more hostile than another, to the cultivation of medical science in this country, that course may be found in this exaction, and the circumstances by which it is accompanied. In this mere announcement of the subject, we have been induced to reverse the usual order of investigation, by anticipating conclusions which should follow from the advancement of facts and arguments, as a more compendious form of pointing out those opinions which shall be subsequently substantiated. We may not, it is true, presently check the abuse, but we shall place such a body of moral and substantive evidence against its injustice before the public, as must for ever render the profits of a vice, which cheats charity of its rights, and defrauds the beggar of the alms of science, a poor compensation for that derision and contempt with which mankind must, in future, look upon its perpetrator.

Our report of the operation of lithotomy at Guy's Hospital, in which Mr. Bransby Cooper, after employing a variety of different instruments, extracted the stone at the end of fifty-five minutes,—the average maximum of time in which this operation is performed by skilful surgeons being about six minutes;* has, as might have been expected, excited no ordinary sensation in the minds of the public, as well as among the operator's professional brethren. An attempt has been made to call in question the accuracy of our report, in a letter signed by a number of the dressers and pupils of the Borough Hospitals, which letter has been inserted, as an advertisement, in *The Times*, and also in the *Morning Herald*. Some of the young gentlemen who have affixed their signatures to this letter, were present at the operation; others, who were *not* present at the operation, have nevertheless, with a generosity more characteristic of their age than of their discretion, added the weight of their testimony to that of the eye-witnesses of the melancholy exhibition, and volunteered their approbation of Mr. Bransby Cooper's performance. Upon the value of this species of testimony we shall make no comment, nor do we think it material that the document to which we allude is signed, we believe, by not more than *one third* of the number of young gentlemen present; had they all signed it, their united opinion of the skill, dexterity, and self-possession exhibited by Mr. Bransby Cooper on this occasion, is not likely to influence the judgment of the profession, whatever it may effect with the public. The question to which the manner in which the late operation was performed is calculated to give rise, is not a question between Mr. Bransby Cooper and his pupils, but it is a question between a surgeon, holding a high and responsibel situation in Guy's Hospital, and the public. Of Mr. Bransby Cooper's amenity of manners, and kindness of disposition, we entertain no doubt; and the letter in question may be regarded as a testimonial of the estimation in which a good-natured lecturer is held by the young gentlemen who attend his class. But the question is not, whether Mr. Bransby Cooper is popular among his pupils, but whether he performed the late operation with that degree of skill, which the public has a right to expect from a surgeon of Guy's Hospital; whether, in short, the case presented such difficulties as no degree of skill could have surmounted in less time, or with less disastrous consequences; or whether the unfortunate patient lost his life, not because his case was really one of extraordinary difficulty, but because it was the turn of a surgeon to operate, who is indebted for his elevation to the influence of a corrupt system, and who, whatever may be his private

* We have frequently seen the operation performed by the senior surgeon of Guy's Hospital in less than one minute!

virtues, would never have been placed in a situation of such deep responsibility as that which he now occupies, had he not been the nephew of Sir Astley Cooper. This is the question, the only question, in which the public is interested; and if Mr. Bransby Cooper is desirous of bringing this question to an issue in a Court of Justice, it will be for Mr. Harrison, the treasurer of Guy's Hospital, to enlighten the minds of the jury as to the circumstances under which the nephew of Sir Astley Cooper was elevated to his present situation. In the event of an action, we shall most unquestionably call upon Mr. Harrison to *disclose* these circumstances to the jury. In the mean time, we do not anticipate the decision of this question by positively impugning Mr. Bransby Cooper's skill; but we contend, as we have repeatedly contended on former occasions, that the inevitable tendency of making the patronage of hospital surgeoncies an affair of family influence, jobbing, and intrigue, is to occasion a cruel and wanton augmentation of human suffering, and to render frequent such heart-rending spectacles as that which was lately exhibited at Guy's Hospital.

We repeat, that there may, by possibility, have been difficulties in this case, which no degree of surgical skill could have surmounted in less time, or with greater ability, than Mr. Bransby Cooper exhibited; and it remains to be seen, whether such difficulties can be shown to have existed. At present, not a single material fact in our report is denied, though its general accuracy is vaguely questioned by the operator's pupils. It is not denied, that nearly one hour elapsed before Mr. Bransby Cooper extracted the stone. It is not denied, that the operator had recourse to the multiplicity of instruments enumerated in our report. It is not denied, that the patient was subjected to extraordinary suffering—suffering which could scarcely fail to terminate in death; but no attempt has been made to show that this was a case of extraordinary difficulty. It is scarcely worth while to allude seriously to the document which has been put forth by Mr. Bransby Cooper's select pupils. But as these are the only panegyrists the operator has hitherto procured, we will put a case, which may enable the public to estimate the value of their approbation. Suppose it had been stated that, instead of employing fifty-five minutes in extracting the stone, Mr. Bransby Cooper had performed the operation in the usual time—say four or five minutes. Suppose it had been stated that, instead of manifesting great perplexity and embarrassment, Mr. Bransby Cooper had exhibited the utmost coolness and self-possession; that the patient appeared to suffer very slightly during the operation, and was removed from the theatre with every prospect of a favourable issue to the case. Let us suppose these, and similar *false* representations, to have been made in this Journal; and we will ask whether any of these young gentlemen, friendly as their feelings are towards a teacher, whose good nature is matter of greater notoriety than his science, and interested as they are in obtaining his good will, and his certificates to enable them to pass their examinations at the College before his "uncle," who is the president of that benighted body;—we will ask whether any of these young gentlemen, some of whom did, and more than one-third of whom did *not* see the operation, would have come forward to contradict a favourable, though a false, report. We repeat that we do not, as the case stands at present, directly and positively, impugn Mr. Bransby Cooper's surgical skill; but, as none of the material facts detailed in our report have been, or, we believe, can be, contradicted; we do not hesitate to say, that, looking to the circumstances attending this and other operations performed by this gentleman; in connexion with the circumstances—we believe that we are justified, and that Mr. Harrison, the treasurer of Guy's

Hospital, knows we are justified in saying, the *extraordinary* circumstances attending his elevation to his present situation, justice, humanity, the interests of the medical profession, and the safety of the public at large, call alike for investigation. Whether this investigation be of a judicial character or not, we are indifferent. We are prepared to meet Mr. BRANSBY COOPER, if he think fit, in a Court of Justice; we will meet him in our own person, (for this will not be a case to intrust to a lawyer, however eminent or highly gifted,) and we shall see whether Mr. Bransby Cooper will be equally prepared to meet us, the public, the relatives of the unfortunate patient, and Mr. Harrison, the Governor of Guy's Hospital.

THE "DIVINE" DOCTOR.

In one of the by-laws of the College of Physicians it is required, that the purchasers of degrees should spend at least two years in an university, before they can be admitted into the body corporate, hence JEMMY JOHNSTONE, and all the other ABERDEEN DUMS, were obliged to abscond to some seat of learning before they could become licentiates. The M. D. of "divine," origin, Charles Mansfield Clarke, Accoucheur and Bat, never having entered the precincts of an university, cannot be associated with the Dowagers of Pall Mall East, without this law being "discharged."

SULPHATE OF QUININE IN INTERMITTENTS.

Dr. FORSTER reports, as the result of his experience, in the treatment of intermittents, in the county of Essex, that the plan of exhibiting the sulphate of quinine as recommended in this Journal, by Dr. Elliotson; namely, the administration of one dose of ten grains, is the most effectual means of cure. But Dr. Forster always exhibits calomel, previously to giving the quinine, having found that, in several cases, the latter medicine has no effect until the liver has been "emulged," as the late Dr. Curry termed it, by the use of mercury.

Mr. WARBURTON's motion for a committee of inquiry did not come on, as was expected, on Thursday evening last. It is postponed until after Easter.

ON WHAT IS DENOMINATED "UNSOUNDNESS OF MIND," BY GEORGE NESSE HILL, ESQ., CHESTER.

"Things by their right names."—LACON.

SUFFER an humble individual to express his gratification at your notice of a late commission of lunacy. It is impossible but that a certain quantum of good must arise from investigating the nature of that condition of the human mind, which is denominated "unsoundness;" that yourself, and some of your ingenious correspondents may pursue this inquiry, is a "consummation devoutly to be wished," more especially by all those medical practitioners who have devoted many years to exploring the nature, and attempting a rational treatment of insanity. Every man accustomed to observe what passes daily within himself, is conscious that, as age advances in the march of decay, so his mind proportionally retreats into irregularity, gradual abolition of memory, and ultimate second childhood; arguing otherwise is, indeed, the true "refuge of ignorance," and the only true materialism, insulting to common sense and contradictory to real religion and sound philosophy.

Dictionary wisdom tells us, that unsoundness is the opposite to soundness; call "things by their right names," and what has this to do with the immortal soul, which the mighty Creator breathed into the wonderful body he had formed? How can a wearing out mind be otherwise considered, than as a wearing out body? What a mighty step is advanced in the declension of the mental faculties, by an apoplectic attack, an epileptic paroxysm, or a paralytic seizure? The medical evidence on the late exposure of a venerable clergyman is valuable, but would have been more so, had nothing been said about our holy religion, the Supreme Being, and the independence of

mind upon matter; the wearing and worn-out mind, only resembles idiotcy; but idiotic mind is not insane mind, no more than it is a worn-out one. Nothing can more effectually prevent success, in the attempts to cure insanity through the medium of diseased body, (whence it always originates,) than the belief of the intellectuality of mind. Can what is intellectual, spiritual, and immortal, be influenced by the operation of gross matter? *Non compos mentis* are right words, and will do very well to denote exhausted or decaying mind, if "things were called by their right names;" but no sooner are these three words pronounced, but with spell-like influence, the mind of the hearer thinks of insanity, points to his head, and exclaims, "Ah, poor fellow! he is no more I find." Now, had the Nottingham jury stopped in their verdict at the word "affairs," their verdict would have been correct, and consistent with nature and truth. Insanity is rarely a disease of age, when the mental faculties are breaking down, and yielding to the first evidences of approaching dissolution. In a practice of nearly forty-seven years, I have never had a patient afflicted with insanity, whose age exceeded sixty-four; a gentleman who recovered his reason, lived to be *non compos*, but suffered no insane relapse. Insanity is always founded on peculiar predisposition, without which there can be no insanity; but having treated at large, on all the subjects connected with this wonderful and appalling disease, in an "Essay on its Prevention and Cure,"* it is the less necessary to dwell now on this most serious subject of human contemplation. Your liberality will indulge me in expressing the high satisfaction I experienced at my work having aroused the public attention to the subject, and materially promoted the parliamentary inquiry, which, for a short time, was carried on with vigour. How greatly it is to be lamented, that this vigour was so evanescent, and that other pressing concerns should have intervened to check the progress, and paralyse the efforts then made, before they had been completely investigated, and every accommodation and relief afforded to suffering humanity, which benevolent wisdom could suggest. Sure the period is at hand, when all will be done that can be done, to place the treatment of the insane on a rational and humane basis. To designate decaying mind as a disease, is about as rational as to call it criminal to have a fever, or the small-pox. One medical witness, at the late trial, says, the mind becomes "defunct," another name for dead. Does, then, this "emanation from the divinity," (as another witness expresses himself,) die? Does it sicken, decline, and expire, before the body? Certainly not in insanity, no more than a paralysed limb becomes defunct or dies. When the organ of eloquence is so rationally employed in depicting the origin of human passions, proving, in terms clear and intelligible, that the stomach and organs of generation are the fountains from whence they spring, that the passion of love is maintained by corporeal vigour, and when the "bodily energies decline, love is extinguished;" sounder truths were never uttered; but, when the same eloquence told the Court at Nottingham, that "if we suppose the mind to be an emanation from the supreme being, it is not susceptible of the ordinary corruptions of matter;" when these two things are brought into apposition, are "things called by their right names?" The illustration of the origin of the passions, their growth with the growth of the body, from whence they originate—their vigour and decline, are beautifully portrayed; but who is yet hardy enough to adventure the promulgation of the doctrine, that such are the faculties of the immortal soul, breathed into man's body by the Creator of that body, and which is combined with organic matter in a manner we cannot comprehend, because, as we are truly told, we see through a glass darkly, &c. What has gross materialism (which sees nothing beyond the grave) to do with this reasoning? Can the faculties of the incorporeal intellectual spirit dwell in the stomach, as was supposed by an Indian tribe, or in the organs of generation, and thus give birth to human passions? Could we, by "overcharging the stomach, produce dulness of the faculties," if those faculties were spiritual emanations? "Inseparable conjunction of body and mind." Inseparable! Alas, how very few bodies, 80 years old, fail to show hourly proof of defunct mind, or, as the ingenious lecturer says of the mind, "it is extinguished." What is extinguished, if things are called by their right names. Are mind and soul convertible terms? When we hear and read of "the inseparable conjunction of mind and body," are the body and soul inseparable? Is the imperishable spirit a seedling placed by its maker in the stomach, heart, or brain, to grow, arrive at its acme, and decline with the bodily energies, and ultimately become extinguished with them? This is gross materialism, if any thing be; but what, then, is the principle of life, and what the immortal spirit? Is the latter subject to decay? Is it capable of forgetting that a man has a daughter, who had stung him with the unkindness of a General? Incompetency of mind and body is one and the same thing; otherwise a man at 80

* See the Quarterly, Edinburgh, Eclectic Reviews, &c., of the day.

would be as competent to solve a problem of Euclid, as he was at 28; but could he carry a sack of wheat as well at the former age as at the latter? Impairment or defection of mental faculties, is not insanity. When the mind and body are like any other piece of complex machinery, are so worn out as to be no longer capable of repair, his property is not to be cruelly despoiled, or his body incarcerated for a disease he never had. If it be proper that the estate of a lunatic should be placed under the care of the Chancellor, is it not equally proper that his Lordship should have the cognizance and appropriation of the property of a man of worn-out mind? And who is hardy enough to aver, that such a man ought to be sent to a mad-house? If all those who endeavour to support such absurdities were to be sent to such a receptacle for one little month, they would learn a very salutary lesson. Sound mind must mean healthy mind, if it mean any thing; "unsound mind" must mean diseased mind; but is every diseased mind an insane one? Are there not such diseases as phrenitis, delirium, coma, &c. Commissions of inquiry, whether a man be a lunatic, or arrived at a state of second childhood, are serious investigations, and demand the most patient and scrutinising inquiry. Still they are two very different things. We cannot suppose there was one of the Nottingham jury ignorant that age, ill usage, wear and tear, will as certainly derange and destroy his wagon, as they will the horses which draw it. Intellect! what do we definitively know of ntellect? Should the word ever be used in any other sense than as expressive of the faculties of the immortal spirit? What does the human mind, with all its astonishing powers, comprehend of the soul? Of sound or unsound intellectuality! What are the constituent parts of anatomy? What is the vital principle, the very essence of vitality? But when we speak of mind and its functions, we are no longer at sea without a chart or compass; we soon make head-land, which it is permitted us to explore, and to comprehend the difference between its diseases and its senile decay. Failure of memory is the earliest indication of "impaired mind;" but such a state is neither insanity nor idiotcy, because impaired mind is not diseased mind, any more than original weak memory is acquired bad memory. The editor of the *Morning Chronicle* of Nov. 3d, has, among some excellent remarks on the late trial, passed a very heavy censure on the conduct of medical men on this and similar occasions, which they are forcibly called upon to prove they do not merit; it is said they are ready "to advocate any side for money;" every honourable mind must feel indignant at such a foul charge, and hasten to repel it with the scorn it merits: conflicting evidence is the basis of the charge, forming a just complaint, as but too often occurring in our courts, especially in lunatic cases. The source of this discrepancy is the lamentable fact, that but very few medical men have made what are called mental diseases a part of their study, owing to causes too well known to require particularizing.* Hence few come so qualified to public investigations, as to enable them to give clear decided statements of even demonstrable facts, on so intricate and neglected a subject; and thus it comes out, that imbecile and insane mind are constantly confounded, for want of calling things by their right names. Insanity is a disease very rarely occurring at the age of 70; whereas evidences of a worn-out mind do not often appear before that æra; but there is something hacknied in the words *non comp.*, for no sooner do they reach the auricular portals of our courts and juries, but the ideas connected with madness and madhouses rush on their minds, overwhelming every iota of truth and common sense, and hence incalculable mischief results.

Before closing these desultory remarks, permit me to occupy a small portion more of your time, to remark on the increased frequency of suicide: the year 1827 was pregnant with many shocking instances of neglected insanity, and its almost always certain consequences. What subjects of human suffering call so pathetically for the prompt exercise of all the kindlier charities of life, as those deprived of reason? but who have been more neglected? It may be safely averred, that there is no feeling which assails the human heart so pungently, as that of losing a near relative or valued friend, under circumstances which leave on the mind of the survivor even a bare suspicion that all was not done to save him which might have been done; this self-reproach ceases but with memory: and more especially is this the case, when existence is closed by an act of self-destruction; then the arrow is doubly barbed. On several late (almost weekly) inquests, what an assemblage of melancholy distressing facts have been disclosed, to meet the public eye —these are manifest; but who can explore and reveal the agonising, but useless regrets they have occasioned in the breasts of affectionate survivors? How shall this anguish be ameliorated? how shall other tender hearts, now beating in fancied security, be saved from similar wretchedness! The answer to this important query is easy, for has not the immortal Verulam left it on

* See Essay on Prevention and Cure, &c. Preface.

record, that "the wisdom of foresight and prevention is better than the wisdom of remedy?" Once fairly rouse public attention to the importance of the subject, and excite as much zeal, knowledge, and care in behalf of the sufferer, before the fatal catastrophe, as there is always exercised afterwards to prove the insanity, and shield the poor victim's name from unmerited reproach. Useless wisdom! unavailing kindness! Having for its reward, neither prevention nor cure! Scarce one case of suicide comes before a Coroner, where it does not become apparent, by the clearest demonstration, that there was time sufficient to have arrested the progress of disease, and prevented its fatality. Ignorance of the nature of the malady, or its just mode of treatment, furnishes no apology, since so much has been written on this most awful, as well as interesting subject of human contemplation. But who will read? who, from pride, false reasoning, and still more reprehensible motives, do not guardedly shun the view, that insanity, in the germ, presents to them? criminally fancying "all men mortal but themselves;" whereas, the fact is, that no family on earth possesses exclusive privileges, or a grant of exemption from madness; all are exposed to the influence of exciting causes; and wherever there exists predisposition, the accession of the malady is certain,—eclipsing the brightest of human understandings. There are certain branches of human knowledge, of which it is almost criminal to be ignorant—insanity is one of them. How can torpid or designed inattention answer to itself for all the dreadful consequences of guilty neglect? And is it nothing to restore to himself, to his relatives, to society, and to the world, such a man as the excellent Romilly?

But it is time to bring these remarks to a conclusion, more especially, as the important subject of erecting asylums for pauper lunatics is occupying the attention of Parliament; and of course, the past, present, and future management of the insane will come under the review of men, who, it cannot be doubted, will allow any branch of the important subject to escape their scrutinising investigation.

ROYAL INFIRMARY, EDINBURGH.

AMPUTATION AT THE SHOULDER-JOINT—OPERATION OF LITHOTOMY—STUDENTS' PETITION TO PARLIAMENT ON THE SUBJECT OF DISSECTION,—&c.

Since the last report, which contained all the cases of any importance up to the conclusion of the clinical course, nothing particular has occurred in the surgical wards with the exception of two capital operations. These operations were, amputation at the shoulder-joint, and lithotomy. The subject of the former, Jane Walker, aged thirty-three, was admitted on the evening of the 10th of March, about nine o'clock. The arm and fore-arm were severely lacerated and contused; the carpal and meta-carpal bones luxated; the radius and ulna fractured in several places; and the biceps muscle separated from its connexions as high up as the coronoid process of the scapula, with the remaining soft parts of the humerus extensively injured along the two lower thirds of its length. The injury was inflicted at some distance from town, at eleven o'clock on the day after her admission, by the wheel of a water-mill. There was no hæmorrhage. A consultation was immediately held, after which Dr. Ballingal removed the limb at the shoulder joint, forming the deltoid into a single flap, in consequence of the contused state of the opposite integuments. Four vessels were taken up; the flap confined in its proper place by the interrupted suture; and adhesive straps. The operation was followed by severe constitutional symptoms, vomiting having come on in the night shortly after its performance, and the pulse ranging between a hundred and a hundred and twenty-eight for the first five days, with furred tongue and costiveness, followed by one slight attack of diarrhœa and pain of abdomen. The discharge throughout was excessively profuse; no union of the parts having taken place; and on the 20th, the integuments over the scapula and above the clavicle became painful on pressure. The usual signs of suppuration being present, an incision was made on the 23rd, on the back and lower part of the scapula; and a considerable collection of matter evacuated. The discharge from the several openings continued profuse; and on the night of the 27th, she was attacked by severe vomiting, and died on the following morning during the visit. As yet there has been no examination of this patient, which might explain a result not expected from the previous symptoms.

The operation of lithotomy was performed on a boy of the name of C. Mitchell, a groom, and a native of Calder. He was admitted on the 16th of March, with most of the usual symptoms of calculus, as frequent desire of micturition; a deep seated pain in the perineum; sudden stoppage of urine when flowing in a full stream; occasional prolapsus ani; weakness in the loins; and a sensation of a stone in the bladder, which could be distinctly felt by the sound; three years ago he passed five small calculi, one of which he states to have been as large as a horse-bean, since which time most of

the preceding symptoms have been present. On the 19th, Dr. Hunter performed the operation in the theatre, by making the external incisions into the urethra, on a curved staff with a scalpel, and subsequently enlarging the wound on the removal of the staff with Blizard's knife, using the finger as a director, and cutting upwards. Two or three forceps being found too large, or the orifice being found rather too small for them, one was at length introduced, and after many efforts to grasp the stone, in which it was broken, a large fragment of it was extracted. The bladder was next syringed, but a large portion of the stone being still found remaining, the forceps was again applied, and after many tedious efforts to seize it, another piece was taken away. The scoop was then introduced by means of which several small fragments were removed; and lastly, the syringe was again used to wash out the remaining particles, the whole process, owing to the defective incision and consequent fracture of the stone, occupying about half an hour. The stone in its entire state must have been large, the nucleus of it, composed of lithic acid, being of the size of an olive; and the external parts composed of ammoniaco-magnesian-phosphate, considerably larger, but broken down during the operation into several small parts. A gum tube, such as is used by Mr. Liston, was introduced into the bladder; the urine passed through it purely for a few days, when it was removed; the boy has not had a bad symptom since the operation; the urine entirely flows through the wound, which looks healthy; and at the date of writing, he is considered in a favourable condition.

Lord Lansdown's observations on the presentation of the Worcestershire petition, have been felt as strongly here as in England. There have, in consequence of his remarks, been two or three meetings of the students on the subject; and a subscription entered into for defraying the expense of a petition to Parliament. There are few places indeed more deeply interested in the mitigation of the laws and prejudices against human dissection, than Edinburgh; for, as a school of medicine and surgery, it has been, particularly this season, injured by a scarcity of subjects, notwithstanding all that has been asserted to the contrary, by persons who prefer concealing the truth, to acknowledging an evil which cannot be remedied without being made public. It is, in fact, scarcely possible for the generality of students to acquire a competent knowledge of anatomy in Edinburgh, from the price at which the materials of that science are to be procured; a subject being worth, at present, from seven to ten pounds, or, as they are more usually disposed of to the students, from one pound ten to two pounds an extremity. The consequence is, that from this cause, and others, there is a considerable falling off in the number of the students here this season, and that a deficiency of nearly a hundred in the number of the graduates of this year is expected.

Scotus.

Edinburgh, March 29, 1828.

WESTMINSTER MEDICAL SOCIETY,

March 29, 1828.

DISCUSSION ON BURNS AND SCALDS.

Mr. Bingham read a paper on burns and scalds, dividing these accidents into three kinds, the first where the part is simply excited; secondly, where there is an effusion of serum under the cuticle; and lastly, where there is destruction of the part. In the first species, Mr. Bingham considered that hot or cold applications might be used, as best suited the patient's feelings. The vesications, he thought, should not be opened until all chance of the serum being absorbed is lost; they are then to be punctured, and powdered chalk sprinkled over the surface. In the third kind, where the part is actually dead, and therefore must be thrown off, leaving a cavity afterwards to be filled by granulations, Mr. Bingham recommended the free use of stimulants internally, as well as externally; and he spoke in terms of high commendation of the utility experienced in the administration of opium. When suppuration is fairly established, Mr. Bingham uses the calamine cerate, with a small portion of powdered opium. In cases of contraction of the skin, Mr. Bingham thinks it would be advisable to operate by introducing a portion of skin from some other part of the body.

A member spoke of the advantages resulting from the application of *raw cotton* in cases of burns or scalds, and stated that which, if confirmed by experience, is highly important, namely, that the skin, under the use of this remedy, retains its original properties.

Dr. Barry and Mr. Skene made some ingenious remarks on the modus agendi of the remedy in question; and Dr. Johnstone said, that he thought the author of the paper had not given sufficient attention to the circumstance of burns and scalds frequently proving fatal from internal disease.

A gentleman, who said that he had seen much practice in the colliery districts, observed that extensive superficial burns

usually prove fatal in the stage of collapse; but that small deep burns are, for the most part, fatal in the stage of excitement.

After some further remarks from Dr. Barry and from Mr. Hunt, the Society adjourned.

LONDON MEDICAL SOCIETY.

March 31, 1828.

Dr. Haslam, President, in the Chair.

Dr. Stewart moved that Dr. Burne be requested to publish the oration which he delivered at the last anniversary meeting.

Dr. Clutterbuck said that he was prevented from being present when the oration was delivered, but from what he had heard of it, he was desirous of seeing it in print. Dr. Burn was then formally requested to publish it.

Dr. Burn rose to inquire whether any of the fellows had met with tetanus produced by an excised wound:—he had heard of a case in which it appeared to arise from this cause, and was desirous of learning whether such had occurred to any of the gentlemen present; in the case to which he had alluded, it appeared to be induced by a puncture made in bleeding.

Mr. Chevalier said that some cases of tetanus are related in the *old* Medical and Physical Journal, from which it appeared that the disease in question came on in consequence of amputation, but he was not well acquainted with the history of these cases, and therefore could not say whether any tetanic symptoms made their appearance before the operation was performed.

Dr. Burn did not consider the cases alluded to by Mr. Chevalier, as conclusive, even if no tetanic symptoms were present at the time of amputation; for in amputating, the bone was sawn, and some of the soft parts might be lacerated by the teeth of the saw, and thus the disease might be fairly attributed to the cause which usually gives rise to it.

Mr. Howel put a question to Mr. Kingdon, relative to the case of disease of the brain, which Mr. K. related to the Society at the last meeting, and this led to a recapitulation of a great part of what was previously said upon this subject. Mr. K. further observed that he had seen cases where the serous effusion in the ventricles was accompanied with symptoms which led to the supposition of diseases that did not exist. One person was supposed to have rheumatism, another gout, and a third even *stricture of the rectum!*

Mr. Howel then stated a case of apparent apoplexy, which occurred in a female, in the last month of pregnancy. The woman was bled largely, and a few hours afterwards it was found that she had given birth to a dead child, although there were not any symptoms which induced him to consider that the patient was in labour. The uterus contracted readily after the expulsion of the placenta; and on the third day, the woman had some return of sensibility; on the fifth day, she was still more sensible, but was not even then aware, till she was informed of it, that parturition had taken place. The lochial discharge was, in this case, very slight; the woman had been much alarmed a short time before the fit occurred.

Dr. Burn related a case very similar to the preceding, in which the child was born whilst the mother was in a state of insensibility without any of the symptoms which usually accompany labour. This woman, previously to the occurrence of the fit, was much distressed. She died shortly after delivery, without any traceable cause.

Mr. Field made some observations on a case of parturition, in which the child was born very rapidly, apparently by a single effort of the uterus. The patient lost some blood afterwards, and was in a state of syncope for a long time.

Mr. Waller said that he had seen cases where the patient had been insensible for a great part of the time of parturition. This condition was noticed principally in women subject to hysterics, and though the symptoms might be very alarming to those who had not before witnessed them, yet he did not believe they were usually dangerous. He had seen patients very faint after the birth of the child, notwithstanding the quantity of blood lost was very small, and the uterus was properly contracted. Some practitioners were much frightened on these occasions, and attributed the syncope to a continued discharge from the uterus, which however, they were unable to discover. They were apt to fancy that the uterus did not contract sufficiently, and under this idea they sometimes "scraped" it for hours. This was a practice, in Mr. Waller's opinion, perfectly unnecessary, and was not, under such circumstances, at all justifiable, as there was no danger of hæmorrhage while the uterus remained properly contracted. He considered the state of insensibility which had been described, and which he had seen both before and after delivery, to arise from hysterics, and he had been accustomed to call it the "hysteric fainting;" according to his experience, it always yielded to the remedies as usually employed in hysterics.

Some desultory conversation here took place upon uterine hæmorrhage, in which Dr. Williams, Mr. Waller, Mr. Howel, Mr. Kingdon and Mr. Shirley, took a part.

CHELMSFORD AND ESSEX HORTICULTURAL AND FLORIST SOCIETY.

(*Essex Herald.*)

An open committee of this Society was held on Saturday evening, at the Saracen's Head Inn, to elect officers, and to arrange the business of the Society for the ensuing season: Dr. Forster in the chair. After a favourable report of the increase of the funds of the Society, the chairman addressed the meeting as follows:—

Gentlemen,—Since our last meeting, an event has occurred which will be much regretted by men of science throughout Europe, but particularly by botanists; I allude to the death of the president of the Linnæan Society of London, Sir James Edward Smith—a man eminently distinguished through life, for his unremitted attention to natural history in general, and his indefatigable endeavours to promote botanical science in particular. It was only when we last assembled, about six weeks ago, that we elected him our honorary and corresponding member, and this day I have to record to you his decease. It is a remarkable circumstance, that his death should have taken place at the very time, and I believe on the very day, that his last volume of *English Flora* was published. He was the intimate friend of my father through life, and they, by turns, dedicated their botanical works to each other. Dr. Smith (a title by which he is still better known in Europe than he is by the superfluous epithet of his knighthood) was the son of a respectable merchant of Norwich, and was originally intended for the silk trade, but the natural bent of his genius led him into a more scientific line of life, and he is one of the numerous instances which Great Britain has afforded, of individual merit raising itself above the level of its original station, to the most distinguished place among men of science. Dr. Smith was educated as a physician, and took a medical degree at a foreign university, but preferred the prosecution of science to the drudgery of medical practice. He is celebrated as the purchaser of the *Herbarium of* Linnæus, and as author of the *Flora Britannica*, of "*English Botany*," and of numerous other works on plants. He was successively elected member of the principal botanical societies of Europe, and was for many years our president of the Linnæan. He was a close follower of the *System of Linnæus*, and, for a long time, seemed averse to the innovation of the *Natural Orders* of Jussieu. Dr. Smith was a man of very liberal mind, and though he was himself a warm advocate for the doctrines of Dr. Priestley, he was divested of sectarian bigotry. He was the friend and patron of all men of talent, without the least regard to their political or religious opinions, in proportion to their moral merits and their literary and scientific attainments, and his loss will be equally felt by his personal friends, as by his scientific correspondents. Since our last meeting I am happy to congratulate the Society upon many new and most respectable names which we have this day to record among our members. [Here the new names were read, and Dr. Forster then resumed.] It is now time that I should say something of the prospects of the Society. We have a large accession of members, and consequently an increase of funds; but *have we already a corresponding augmentation of plan, an extended object of research, and a better arranged scheme for the execution of that object?* This is the question which I propose for your consideration today. We are met now to arrange the meetings for the *Show of Flowers*; but we have already declared a more extensive object to be part of our plan; namely, the cultivation of the more immediately useful objects of horticulture. The culture of the garden, from the remotest antiquity, has always blended the two-fold objects of ornamental botany and the cultivation of medicinal and culinary plants. Botany was first cultivated in this part of Europe, by the religious orders in their monastery gardens. The travelling friars and pilgrims of the mendicant orders introduced the greatest number of new plants, and by their knowledge and popular application of medical botany, they laid the foundation of our modern Pharmacopœias. Early in the 16th century, the followers of St. Ignatius of Loyola penetrated the most dangerous and inhospitable regions of the earth, and brought back into civilised Europe, numerous, new, scarce, and useful plants; a trace of which singularly instructive part of the history of botany may be still found in the popular names for plants, such as *Jesuit's Bark, St. Ignatius' Bean, Monk's Rhubarb*, and numerous others, which served to mark out for our imitation, the attention paid to the *useful* part of botany, by all those early cultivators of the flower garden. Dr. Forster here illustrated the subject by numerous instances, and detailed the history of the introduction of various particular plants into the country, which, however, are only interesting to the botanist, and which we cannot find room to report at length.

Mr. Howard rose and made some very apposite remarks on the Horticulture of the period alluded to, and a protracted discussion of a miscellaneous nature on the antiquity and origin of gardening followed, of which no notes were taken, as the chairman, at the suggestion of a gentleman present, observed,

that, as it was getting late, it would be better to go at once into the business of the meeting.

Mr. WICKS, solicitor, then proposed, and Mr. COWLAND seconded it, that Dr. Forster be elected president for the ensuing year.

Dr. FORSTER then rose, and having returned the Society thanks for the honour conferred on him, observed, that from the nature of the Medical Profession, and his liability to be called away, he could not promise to the Society a regular attendance, but he would do his best, and whenever he had time, would endeavour to make up by personal exertion, what he felt conscious he wanted in ability, to further the useful objects of the Society. He added, that he trusted, therefore, he should meet with co-operation on the part of other gentlemen who had done him the honour of adding their names and influence to the Society, since he had become a member of it. He was not one of those who liked the too-common plan of laying on one's oars and whistling for wind. The man who called on Hercules should put his own shoulders to the wheel. He felt himself pledged to act on this principle towards the respectable gentlemen who lent their pecuniary aid and names to the Society, but he could not do it alone, and hoped that all members would do their part.

Mr. Howard was then proposed as secretary and treasurer for the ensuing year, and duly elected.

The thanks of the meeting were then voted to Mr. Wood, the late president, for his attention to the business of the Society.

It was then agreed that the show of prize auriculas and cucumbers should take place on Tuesday, the 22d of April next; and that, in future, prizes for fruits should accompany those for flowers, and should be arranged at a subsequent meeting.

The committee adjourned at ¼ past 10 o'clock.

LITHOTOMY AT GUY'S HOSPITAL.

" [ADVERTISEMENT.]

To the Editor of THE TIMES.

SIR,—As you alluded, in a paragraph of your paper of Saturday last, to an operation lately performed at a public hospital, declaring, at the same time, that the " details were too shocking for general perusal," we beg you will insert the following letter, which was addressed to the Editor of the *Morning Herald*, as an explanatory refutation to the report which that Journal had extracted from THE LANCET.

We have the honour to remain, Sir,
Your obedient servants,
THE STUDENTS OF THE BOROUGH HOSPITALS.
(Signed) JOHN HILTON, Chairman.

Anatomical Theatre, Guy's Hospital,
April 1, 1828.

ANATOMICAL THEATRE, GUY'S HOSPITAL.

To the Editor of THE MORNING HERALD.

SIR,—We, the undersigned Dressers and Pupils of the Borough Hospitals, have observed, with mixed feelings of surprise and regret, that in your paper of Saturday last, among the various channels of information, which, in your official capacity as Editor, you deem it your duty to explore, you should have selected from THE LANCET of the same date, what purposes to be a report of an operation recently performed at Guy's Hospital:—of surprise, on the one hand, that you had no misgivings as to the truth and accuracy of the publication, no suspicion of the quarter from which your information was derived; and of regret, on the other, that, presuming guilt on such evidence, you should have given a temporary sanction and stability to the statement, by inserting it in your highly respectable journal.

But, Sir, as you did not stop to ask, " are these things so?" before giving them publicity, we at least expect that, in the impartial exercise of your censorship, you will readily repair the mischief your instrumentality has caused, by setting forth in those columns which contained the charge, the following unanimous and unequivocal contradiction.

Indeed, we should be extremely forgetful of the advantages secured to us by this institution, and but ill requite the kindness we have uniformly received, were we to " spare to speak" at this moment, when the character of one of its officers has been so foully and falsely assailed. Hence we feel we are called upon, in an especial manner, to justify the conduct of that individual; to testify to his qualifications as a teacher, to his superior skill as an operating surgeon, and to his worth and integrity as a man. We therefore formally protest against the defamatory calumnies which have been noised abroad, and avowedly declare that the report of the case, as given in THE LANCET, is altogether amplified and exaggerated; that there is every distortion of facts, and insertion of what are not facts, to bring the operator into contempt, and to sully his fair character. But, as it would occupy too

much space in your valuable columns to *dissect out* and falsify each assertion, we shall content ourselves with affirming, that the protracted time of the operation was attributable to the unusual and extraordinary difficulties which presented themselves; that these difficulties were met and overcome by the operator with coolness; and that he neither used any expressions but those called for by the exigencies of the case, nor spoke in the unguarded manner which has been so maliciously, but ridiculously, imputed to him; and that the last assertion, viz. of the patient being kept upon the table *bound* whilst the operator was explaining, is only one of the many falsehoods that have been so meanly devised and industriously circulated against him.

We have been thus brief in our contradiction of the statements, or rather the misstatements of THE LANCET, because it is notoriously admitted as a fact among the reputable part of the profession, that to quote from THE LANCET is at all times a ground for doubting the truth of such quotation. Besides, the spirit with which the report is written, plainly disproves the sincerity of the production—*mole ruit sua*.

But what we have said will suffice to show, that although the best among us cannot escape with impunity, there will always be found those who are ready, humble as their efforts may prove, to expose such personal hostility, and to assure the public that his attacks have the least effect where they are intended to do the most injury.

John Hilton
*H. Blenkarne
*Wm. Davies
Henry Roberts
*Wm. Muriel
*Sam. S. Scriven
H. W. F. Greatwood
*J. W. Owen
*Chas. Ridley
*John Elliot
*John Bush
*John Atte
*Wm. Barker
John Dalrymple
H. M. Hughes
*Alex. Twedie
*R. H. Swallow
*J. Dashwood
Henry Reynolds
Wm. H. Fogerty
*Samson Cary
George Dade
W. R. Renwick
*Wm. P. Borrett
*Fred. Priest
*S. W. Mousley
*Mich. Wallis
*Griffith Boynton
*A. W. Maitland
*Wm. Francis
*George Myers
W. D. Williams
*G. L. Hillas
*Benj. Dulley
*Thos. Delahay
J. Hickson
*Benj. Wood
*N. C. Bacon
J. T. Kirkman
*Thos. Watters
James Edgecome
*George Edgecome
*Wm. Ellis
*J. E. Goodridge
*Ed. Hillyard
*Ed. Ingram
*John Smith
*Mich. Minter
*Ed. R. Bower
John Swift
*Wm. Saukey
*Arthur Lamb
*W. Perkins
*Rt. Paterson
Ch. Griffiths
*Rd. Jones
*T. W. King
*J. E. Cambridge
S. J. Bayfield
H. W. C. Abbott
John K. Cook
A. Dalrymple
Robert Stone
S. R. Ensor
*Rich. Hieson
*W. P. Andrew
Wm. Clowes
Horatio Daveney
*R. Carrington
*T. C. Laver
*J. E. T. Panatt
*J. Postlethwaite
*Jos. Calcott
*H. R. Lewis
G. R. Robinson
*W. Ellis
*Henry Butcher
*John Pitcher
*Edw. Turner
*W. H. Denham
*J. Cornley
*Edward Carey
S. F. Bromley
*Edw. Downing
*Jonathan Blake
Wm. J. Rundle
J. T. Hepworth
*G. W. Linton
*Edw. Ingram
*John Mansell
Alexander Hett
Brooke Muriel
*Rich. Valentine
*M. Buszard
*Eb. Smith
G. H. Armstrong
*Charles Ridley
*S. B. L. Bell
*John Bird
Richard Savage
Thomas Hall
John D. Croker
*D. W. Crompton
*J. O. Nichols
*John Davison
John T. Gilson
Henry Denne
H. T. Glendining
J. W. Workman
*Chas. K. Webb
*Robert C. Foss
*John Plane
*T. V. Oates
S. Gould
*F. Budd
H. J. Moorhouse
*Thomas Hall
*Geo. Hillas
G. S. Byas
*Edw. Jackson
H. Whitmore
*J. S. Scarborough
*Rd. Chapman
*John Price
H. H. Coffin
J. S. Tulle
*Thos. Ward
*Ed. Andrews
*C. Spurgin
*R. P. Edwards
*J. Bayly
F. H. Trealilian
*H. W. Burton
*John Purvies
*B. Spurgin
*G. Heath
*Thos. Delahay
*H. J. Macy
A. S. Taylor
T. A. Smith
*Fred. Clerk
Edw. Cock
*A. T. S. Dodd
Wm. Smith
F. Braithwaite
R. T. Scaw
*W. Gates
*S. Mason
*Isaac Harwood
E. A. Reynolds
*Wm. Anderson
Rt. Dashwood
*Rd. Bright
I. Shoubridge
J. T. Stinson
*Robert Hook
*Geo. Bayfield
J. S. Tribe
George Rainey
*R. Ballantyne
H. Parry
*Fras. A. Bulley
*G. H. Wortham
*C. M. Morales
Wm. Guy
Octavius Munton
Robert T. Jones
Thos. S. Byass
*Richard Ibeson
*Thomas Ware
Henry Peacock
J. G. Leete
Frederick Tuckett
Charles Gaselee

Those gentlemen, to whose names an asterisk is affixed, were eye-witnesses of the operation, while the rest bear testimony to the high professional character of the operator.—March 31."

ST. GEORGE'S HOSPITAL.

MALIGNANT DISEASE OF THE TESTICLE—OPERATION OF CASTRATION, BY MR. ROSE.

WILLIAM WESTBROOK, ætat. 37, was admitted under the care of Mr. Rose, on the 27th of February, on account of an enlargement of the left testis.

Upon his admission he stated that he was attacked with severe pain in the part about Christmas last, and that it swelled a little; he applied to a surgeon, who bled him from the arm, and put leeches to the scrotum. In consequence of these means the pain was reduced, but the swelling, on the contrary, gradually increased.

When the man was admitted, the tumour was of the size of a large orange, having an irregular lobulated surface, hard in some parts, and soft in others; the spermatic cord was apparently thickened, and was much harder than natural.

The treatment directed was the daily application of leeches, with cold lotions; the exhibition of five grains of blue pill every night, and a dose of purging medicine every second day. These means were continued to the 14th of March, when the mouth was evidently affected, the man also complained of headach, and his countenance, it was remarked, had that peculiar appearance so characteristic of malignant disease. The tumour also, within the few preceding days, had become much larger and heavier. He was now ordered five grains of carbonate of ammonia, in camphor julep, three times a-day; but, in the course of a few days, this medicine was omitted, and sarsaparilla prescribed. The patient, however, experiencing no relief, the operation of castration was proposed, and Mr. Rose performed it on the 27th.

An incision was made from the external abdominal ring to the base of the tumour, which was then dissected out, a portion of integument being removed at the same time: it was found that a lobular portion of the tumour extended within the outer ring; and this it was which gave the appearance of the chord being diseased, whilst it was really healthy, with the exception of having contracted adhesions to the cellular tissue. Two vessels were tied in the chord, and several in the scrotum; in the latter, the ligatures were cut short.

Upon making a section of the tumour, there was no appearance of the original structure of the testis, but one portion had the appearance of medullary sarcoma, another like scirrhus, whilst, on the external part below the tunica albuginea there were some hydatids.

The edges of the wound were brought together by means of sutures, and strips of adhesive plaster; compresses, wetted with cold lotion, being applied over the whole. On the following day, there was considerable febrile excitement; but, at the date of this report, April 1, the man appears to be doing well.

GUY'S HOSPITAL.

DISEASES OF THE TESTICLE.

THE two following cases serve to illustrate some important practical points in the treatment of inflammatory disease of the testicle. The first case, especially, exemplifies the beneficial effect of cupping on the loins, a mode of practice to which we have before had occasion to allude; in the second case also the most decided relief was afforded by the same plan of treatment, but a thickening remained at the epididymis which, as it will be seen by the report, was removed under the use of mercury.

Case 1.—J. F. ætat. 22, a sailor, stated on admission, that he had received a severe blow on the right testicle four days previously; he had had gonorrhœa for some time, but the discharge had in a great measure ceased. He complained of *violent pain in the loins*, with sickness, much febrile excitement, exquisite tenderness of the testicle, which was greatly swollen and very hard, and pain along the course of the chord.

The treatment pursued in the first instance was the abtraction of fourteen ounces of blood from the loins by means of cupping; the application of leeches to the scrotum, and the exhibition of saline purgatives.

A report made on the third day after admission, stands thus—great and instant relief was afforded by the cupping; the testicle itself is still much enlarged and painful, but the pain in the loins ceased with the cupping. Ordered, twenty leeches to the scrotum.

The patient was discharged at the end of three weeks quite well, without any thing further, worthy of remark, having occurred.

Case 2.—The patient in this case was 18 years of age, he had been affected with gonorrhœa upwards of two months; the testicle began to swell, the discharge consentaneously ceasing, about a fortnight before admission. When he came into the hospital, the testicle was found to be very much enlarged and acutely tender; the epididymis was remarkably hard, tender and much swollen, and according to the patient's account, the disease commenced at this part. He complained of severe pain in the loins, as well as in the testicle and along the chord, and he laboured under much febrile excitement, with constant nauses.

On the day of admission, he was cupped

on the loins to the amount of a pound, a purging powder given, composed of scammony and calomel, to be followed up by repeated doses of salts in infusion of roses.

The testicle on the third day was reduced under the foregoing means, to nearly its natural feel, the pain in the loins subsided as soon as the cupping was performed, and also the nausea. The epididymis still remaining very hard and much swollen, leeches were directed to be applied every second night, and friction with camphorated mercurial ointment used on the intermediate nights.

This treatment was continued a fortnight, when the induration of the epididymus was found to have entirely subsided, and the patient was discharged quite well.

Both of these cases were under the care of Mr. Morgan.

SINGULAR INJURY NEAR TO THE KNEE-JOINT, FRACTURE OF THE TUBERCLE OF THE TIBIA, WITH COMPLETE LACERATION OF THE LIGAMENTUM PATELLÆ.

The patient, in this case, a spare man, fifty-nine years of age, was admitted into Accident Ward, under the care of Mr. Key, about one month since; the injury was occasioned by a truss of hay falling upon him from a height, and knocking him down in the street. In respect to whether he fell directly upon his knee or not, the man could give no precise information; this part, however, was the seat of injury.

When the tumefaction had been lessened by the application of leeches, it became very evident on handling the part, that the patella was separated from its natural inferior attachment, in being loose, and its lower surface four fingers breadth in distance from the tubercle of the tibia, the limb, at the same time, being in a state of extension. The tubercle of the tibia was so very large, that it was, at first, supposed to be the inferior portion of the patella, it being surmised that a transverse fracture of this bone had taken place, and that the superior portion was, as usual, drawn up. It was especially remarked, however, that this supposed lower part of the patella projected very considerably, being tilted as it were, and pressing strongly against the integument; and it was therefore asked, how are we to account for this? seeing that no muscular power can be exerted on the lower part of the patella. But, to come at once to the true nature of the accident, Mr. Key, from attentive examination, was led to the conclusion of there being a complete laceration of the ligamentum patellæ, and a fracture of the tubercle of the tibia; this latter part was moveable, and afforded a distinct crepitus; the circumstance of its mobility had tended to strengthen the supposition of its being the inferior part of the patella.

The diagnostic marks on which Mr. Key relied, and which he pointed out to the attention of the pupils were, first, the fact of the projecting body being far below the natural situation of the inferior part of the patella, being, as compared with the opposite tubercle of the tibia, precisely in the proper situation of that process; and, secondly, the lower part of the patella not having the abrupt surface of a fracture.

The treatment of the case has been similar to that adopted in fracture of the knee-pan; the swelling having been reduced by leeches and evaporating lotions, the limb was placed in the extended position on a splint, with foot piece, and elevated considerably above the level of the body. The patella was brought down as far as possible, and confined by means of a bandage and pad, and strips of soap-cerate-plaster were laid over the tubercle.

Under the use of these means, complete union of the tubercle appears to have taken place, and there is also, apparently, union of the ligament, but the patella is not brought down to its natural situation. We have stated the case now, that practitioners may see it, being an accident of a very singular kind.

TO CORRESPONDENTS.

Communications have been received from Mr. Upsall—Mr. Alport—Dr. Forster—Dr. Sully—Mr. Griffin—Mr. T. W. Thomas—Democritus, Junior—One of his Class—Non-Medicus—Discipulus—Mr. Beeston—A General Practitioner—A Young Practitioner—A Twenty Pounder—Mr. Simpkins—Narrator Verus—Dr. Blundell—J. B.—A Pupil—Mr. E. Key—Mr. Dawes—Philo-Lancet—Surriensis—Mr. J. Davies—Mr. E. Hall—L. G. L.—No Dub—Eques—A Young Surgeon—A Blast from the North—Dr. Dieffenbach, Berlin—A Subscriber—A Pupil—T. J. H.—Mr. John Medd—Mr. Cook—Medicus—Mr. Robinson—One of the Humbugged—A Non-Initiated—Moribund—Mr. Merry—Dr. Greening—An Apothecary's Apprentice.

"L. L. B." is informed, that the part was corrected in the third edition.

We are not acquainted with the address of Dr. Curling.

"The "Cock Sparrow" has not commenced an action against THE LANCET; at any rate, he has sense enough NOT to do *that*.

Longman's "Excrescence" is beneath notice; it is acknowledged to be a failure even by the Bats; the *stamped edition* is already DEAD.